

# ON series

*on the object*

*on aboutness*

*on meaning*

*on storytelling*

*on uniqueness*

*on infinite possibilities*

*on the human condition*

*on the human psyche*

*on reflexion*

*on alienation*

*on reality*



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### *About this project*

From an early age on I have been interested in the humanities, in particular the different schools of psychology, sociology, history and politics. Later in life I started with the study in philosophy and ethics. An interest in technique resulted in a multi disciplinary point of view whereby the operationalism inspired by the said technique played an important role. Kant's approach of investigating conditions of possibility combined with looking for answers on the level of operations became expressed in a doctoral research investigating the cognitive dimension of consciousness. In a later project on the alleged impact of the workings of mirror neurons, the importance of embodiment and action became a central theme. Profiting from data and insights gathered in the research programs mentioned, the attention became by accident attracted on cognitive archaeology. The underlying idea is that the characteristics from unearthed artefacts could tell something about the cognitive mind setting of the early humans. Following closely the publications on research on the cognitive abilities of great apes on the one hand and familiar with similar research on humans on the other, comparison provided the stepping stone into this project which so far has been going on for almost two decades now. It allowed suggesting hypotheses on the specificities of human knowledge in particular, the human condition in general.

A methodological point of view needs to be mentioned. Having studied philosophy and by this familiar with the history of Western thought, it became clear that many concepts taken for granted are actually particular history based interpretations. A deconstruction is imminent in order to expose the underlying operations, motor as well as cognitive in nature.

The publications on offer such as this volume are collections of essays on cognition and the human condition. The consequence is that the different chapters can be chosen at will.

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### *Publications*

- The Forgotten Transition, the result of a research project (English)
- Supplement to The Forgotten Transition (English)
- Unveiling the Mind (English)
- Making the World appear (English)
- On Series (English)
- A point of View (English)
- De cognitieve dimensie van het bewustzijn en spiegelneurale effecten: een onderzoek naar de manier waarop de spiegelneurale werking bijdraagt tot het beweten; doctoraatsverhandeling (Nederlands)
- Paralipomena (Nederlands)
- Opstellen over het Fenomenalisme (Nederlands)
- Psychologisering van Bickerton's representationeel schema in functie van het verkennen van de mogelijkheden die taal vanuit een handelingscontext kan bieden bij het negotiëren van de "wereld" (proefschrift, Nederlands)

### *Sources*

<https://archive.org/search.php?query=creator%3A%22J.F.R.+Gilbert+Ph.D.%22>

[johnfrgilbert.wordpress.com/](http://johnfrgilbert.wordpress.com/)

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# Introduction to a compilation of essays, musings and comments

From the point of view of evolution, the human species evolved within the line encompassing the great apes. Richard Leaky quite sloganesk declared that the human is the 5<sup>th</sup> ape however doing things differently. The subjects discussed in this volume are precisely focusing and exploring the differences which could be summarized by one expression "the human condition". So, what is that condition?

Eleven themes will pass the review. First comes "On the object", followed by "On aboutness", "On meaning" and "On storytelling". These are the basic concepts constituting the core of the human condition.

Seven more subjects not less important but building further on the four mentioned above. These are "On uniqueness", "On the alleged infinite possibilities of the human", "On the human condition", "On the human psyche", "On reflexion", "On the overwhelming alienation", the whole rounded up with "On reality",.

Most themes consist of plural chapters. Some are new, others borrowed from earlier work. As each has been composed as a standalone text some overlap will occur. I have chosen not to adapt the different contributions into a smooth whole by this allowing the interested reader to browse at will.

"**On the object**" is the first of five chapters under the same title. It discusses different approaches on the concept and will conclude that it is not a natural kind but a name attributed to a perceptive configuration. The second chapter "The object redefined" describes a fine-tuning of the object as was hypothesized in "The Forgotten Transition". As already became obvious in the chapters mentioned, the third will from the point of view of perceptual and of developmental psychology explore more in depth the constructive character of the concept of object. The fourth contribution ties with the previous. If an object is a construct in what way could images in the head become understood? The fifth and closing chapter aims at shedding light on the difference between the object as a perceptive cognitive configuration and the particular influence on the understanding of object since the 16<sup>th</sup> century.

On closer inspection the human experiences the perspective in which he seems to take position in front of and at the same time at a distance from the item perceived, discussed or considered. This quite particular stance is referred to as "**aboutness**". This part offers three essays on this subject. The first goes with the title "Impossibility experienced". It questions how could it at all could be possible to at the same time take the position of actor and the perspective of observer and in doing this introducing a distinction in turn introducing an experience of distance? That is the conundrum at stake in this contribution. The following chapter comments on an article of Thomas Wynn in Adaptive Behaviour (2021). Therein the author refers to non-linguistic systems of declarative knowledge. An excellent occasion to explore the condition

declaration takes place in and what the relation to aboutness might be. The closing chapter is tale telling called “Archimedes and the palace of mirrors”. This also refers to the observer on the sideline more precisely on the performed act of reporting i.e. bringing forth narratives. The attention is directed on how the hominin evolved into a storytelling species as a particular instrument supporting negotiation of the changing environment. It further deals with the critical remark that if all is narrative then this contribution is too hence why should it have more merit than any other version (science versus religion for instance)? In order to provide an answer on this the model proposing the existence of higher order thoughts is getting commented on. Further the reasons to choose for operationalism are defended therewith justifying the methodological perspective taken.

The third bundle offering six texts discusses **meaning**, a concept at the heart of the understanding of the human condition. “Levels of meaning” as the opening piece distinguishes between relevance and meaning, concepts which are inseparably intertwined. It further offers an insight in different layers each more sophisticated in function compared to the previous. This clearly shows an accumulative process. Realising an insight in the initial condition as the platform for the development of further skills and competences facilitates the understanding of the said condition. That is the topic of the second contribution. In that the role of the hands providing the prominent interface becomes evident. The abilities and the dynamics involved support the development of further steps into a particular way of cognizing. That is the subject central to parts three and four, the latter actually being a condensed version of part three. The light bulb moment got fired up by the remarkable difference in characteristics of the tools used. The suggestion is made that these dynamics will reflect in the structure of cognition with meaning evidently at the core. This will be discussed in “The meaning of grammar of action in stone knapping for further cognition”. Meaning is not only defined by particular forms of action. In a much later stage cultural influences also play an important role. The sixth contribution with “The remarkable character of Western thought” will focus on that. In short it reflects historical based ideas dominating contemporary thought. But there are suggestions possible allowing “Thinking out of the Box”. That will round up this part on meaning.

“**On storytelling**” is the last of the essentials; essential in the sense that these taken together give form to what makes out the core of the human condition.

The human experience seems to have the character of a never ending narrative. Whatever said or thought it takes the form of a report or storyline. Even formal expressions like logic or chemical formulas do not escape that condition. They are narratives under restrictive conditions. Narration seems a defining feature of the human, enough reason to take a closer look at some characteristics.

“**On uniqueness**” is the first of the second line contributions. They are second line because they are clarifications, comments and elaborations on characteristics of what characterizes the human.

“What makes the human unique?” can be rephrased as “what is it characterizing the human in a decisive manner?” It reaches further than “what is unique to the human?” Sweating as thermoregulation for instance does not seem to occur in other species and as such is an expression of uniqueness but it will be clear that it is not this characteristic making the human species to dominate the globe, nature and all other

species. The question is what is it enabling the human species to stand out and dominate the world, by this setting him apart from all other species?

The following text focuses on the alleged “**infinite possibilities of man**”. This subject is seldom discussed in an explicit way but tacitly it feels as if the human abilities in principle are without an end somewhat similar to the feeling that the human freedom has in principle no borders. This contribution will show that the human abilities are in a definite way determined by the body and more in particular by the logic of the hands engaged in mediated manipulation.

“**On the human condition**” is an important subject. The first part could be summarized by the observation that it offers a phylogenetic overview of the coming into being of the typical human way of knowing while the second part focuses on the ontogenesis. In detail, the first essay relates three stages: the origin of aboutness and objectification followed by the introduction of meaning by association. It then explains how the same structure present in these stages is repeated on the semantic level, i.e. with the rise of the philosophers of nature around 5<sup>th</sup> century B.C.E. The second essay leaves history behind and focuses on core characteristics in cognizing such as explanation and projection. It also pays attention to the anthropomorphizing perspective.

These essays focused on the building up of the skill of knowing overtime. The title of the next part under “The Human Condition” is self explanatory: “Realizing human cognition in the cross-section of life”. The stepping stone is the self evident insight that the human, any organism for that matter, only can exist in the cross-section of the local situation and the actual slice of time. The act of knowing can only be performed in there. Following in a direct way is the question how the human condition is in the cross-section of the moment factually realized provoking an action program as an answer. In concrete terms, what has to be performed in order to provoke features characterizing that condition? But both the case of feral children and that of great apes learning language expose a problem. Education does not seem to be sufficient. Could there be some condition of readiness in play?

In trying to find answer to all of these questions the role of the hands became obvious. Remarkably there is a relation to human boredom.

If psyche as phenomenon manifests itself as the turbulent character of experience then non human animals too have a psychic dimension. The human being an animal too, shares that condition. But apart of that, the he seems to posses additional perspectives. This will briefly be explored n “**On the human Psyche**”.

“**Reflexion**” is a weird act to say the least. On the one hand it seems quite innocent and easy to overlook; referring to oneself seems to be a natural part of colloquial conversation. However, on closer inspection is refers to a very weird ability: being the referring actor and the instance referred to in one and the same movement. Based on findings published in The Forgotten Transition, this part will shed light on this peculiarity.

The human way of perceiving and negotiating the world is - putting it mildly - enriched. But according to some, this comes at a cost: a condition of not recoverably alienation in respect to a straight forward kind of pure existence. "**On the overwhelming alienation**" will contest this conviction and reduce it to its historical grounds.

The idea of reporting **on reality** from the position of an independent observer is a factual impossibility. Paraphrasing Maslow's quote that if there is only a hammer then everything becomes a nail, if there is only a body then everything becomes of function of abilities opened by the body.



# On the object

## Introduction

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On the first meaning

On the second meaning

Starting point somewhere in historical time

Husserl's critique

The mind body problem



## Introduction

“The Forgotten Transition” reports on the insights developed during a long term research in what could be considered the linchpin into the human condition. The conclusion underpinning the central thesis explains that non human animals and humans have a quite different perspective on the environment. While animals are fully engaged in events, the human focuses on the manipulation of objects. In this bundle it will be shown that objects are not natural kinds but perceptive cognitive constructs being brought forth by a particular way of negotiating the “world”.

The first part “On the Object” grounds the dominant perceptive marker in movement and action. It further explores characteristics of what is getting considered to be an object. It rounds up by questioning why the literature is exclusively focussing on objects hence neglects the equally important event as meaning giving configuration.

The research did not end with the report mentioned. In time the definition of “object” became rephrased which is the theme of the second part. The third chapter explores the reasons why the object as conceived is not a natural kind but a construct. In that respect it focuses on research into visual perception as done by Hubel and Wiesel, on insights raised by congenital blind people gaining sight on a later age and on considerations offered from the fields of developmental and Gestalt psychology.

In the context of the object being a construct as supported by Gestalt and by developmental psychology the question into the nature of the image “in the head” arises. The forth chapter will look into the characteristics of what that actually may be suggesting. After discussing mainstream thoughts on the subject, this part will be rounded up by a radical constructivist approach.

The literature on the object often seems to suggest one type of object in particular the kind suggested in the writings of Husserl. This holds a confusion between the object as a perceptive cognitive configuration and a particular historical understanding. This fifth and final chapter in this bundle explores both perspectives.



# 1. On “the object”

The psychological study of perception brings to light that in the visual mode a condition of alertness is raised by movement in the visual field. This coincides with the fact that neural tissue only is present in moving organisms. The tube sea squirt (*Ciona intestinalis*) offers an excellent illustration. In its initial state as larvae, it has a rudimentary nerve centre. But once a suitable spot to stay found, it digests this neural knot. This makes the specific function of a brain clear, all be it in this case a very simple specimen<sup>1</sup>.

Movement as a discriminating factor is very powerful. Large objects or even living creatures as far as they stay immobile do in most cases not get noticed, a phenomenon well known to hunters and wildlife spotters. Under these circumstances any moving item will acquire foreground value whereas stationary configurations vanish into the diffuse background<sup>2</sup>.

The perception of an item with object characteristics<sup>3</sup> is different compared to that of an event. An object as a clear delimited entity acquires a certain degree of salience. It takes position in the focus of attention. At this instance the cognitive scheme in the act of organizing a concept, puts together parts into a certain form and so plays the determining role instead of the movement in the case of events. The object is “there”, standing tall, detached from but still present in the context. It is present in front of the observer in a very special way. The observer seems to be able to move around it with all the other stuff being present rather diffuse in the background. As manipulator he seems to be able to topple the object in all directions. With all this in one and the same act, geometric three-dimensionality gets introduced as an alternative for the force field in which the organism is fully engaged. This is yet another cognitive organisational characteristic. Space unfolds itself along the lines of that geometrical dimension with the object present in a coordinational location.

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<sup>1</sup> Trivers (2002) pointing out that natural and sexual selection is not aimed at realizing a brain capable of true (corresponding) knowledge, has been referred to earlier. He stresses that the only biological function of the brain is to sustain the fitness of the organism in order to be able to successfully transfer its genes. Also Vaihinger expresses a similar point of view.

<sup>2</sup> Rensink (2000) mentions the limited character of the visual focus and at the same time to different forms of blindness of which his comments, that they are common rather than exceptional.

<sup>3</sup> The following gives an idea of how an object is getting thought of. Nisbett in comparing Eastern and Western thought observes the following remarkable position sounding familiar but referring to the history of thought and not to the introduction of a stable configuration of input in the frame or anthropogenesis “(...) more basic to Greek philosophy is its background scheme, which regarded the object in isolation as the proper focus of attention and analysis.” (2003:10)

Jumping to more recent times John Stuart Mill in his psychological theory of belief in externality takes an object as a permanent possibility of sensation – what I would call a stable configuration. For Berkeley knowledge of material objects is ideal (an idea as a product of the mind) not real.

For Kant an object is any thing which is conditioned – which is brought into condition thus – by the subjects representation and so capable of being known. As the thing in itself cannot be known it cannot take the form of an object. Categories of the mind are necessary for the experience of spatio-temporal objects.

A contemporary researcher in the field of perception Ian E. Gordon concludes “(...) in characterizing a real object as a stimulus we do not refer to an absolute property, in and by itself but only to the objects relationships to a living organism” (2004:23). It will be clear that the literature on the subject is vast. What is getting mentioned serves only as a hint.

The manipulated object provokes even more. In a semantic tension it calls for the other instance in the manipulation, the manipulating and experiencing subject. And a step further still, the manipulating subject taking himself to object of contemplation and manipulation<sup>4</sup>.

In summary the characteristics of “the object” are:

- it shows itself as a distinctive entity prominent against the background; this is opposed to the figure with fuzzy borders merging into the gradually diffusing background characteristic for an event;
- in relation to the object distance and detachment is taking form in the experience of the observer-actor as opposed to the character of structured coupling and the being absorbed into the event;
- with this attitude of distance taking the character of direct engagement in the event is getting transformed into an orientation of the observer-actor onto the object;
- this taking of distance implies a rupture or decoupling providing the necessary condition for the opportunity to make a choice whether or not to act, contrary to being rather blindly restrained into the direct engagement.

This is all together a very different organized perception than the one in which events play the exclusive role.

But whatever the organization of the content, any perception<sup>5</sup> affects profoundly the relationship of the organism to the perceived context or Umwelt. This is particularly so for basic categories and concepts such as “event” and “object”.

What is of special importance is the fact that observations of “events” and “objects” do not bring to light natural items, units existing in the natural order in that particular form. An “object” as a basic categorizing scheme is a cognitive construct embedded in the reorganisation of the perception which accompanied or followed from the evolving handling of means (tools). In one sentence an object is the name given to a concept which got form during a particular period in the development leading to the modern human.

But the fact that the literature only refers to “object” cannot be overlooked.

Take Schneider G.E. for instance, who in Science 163 dating from 1969, reports that descriptions allowing identification of objects are being processed in another neural location than the description guiding the hand into a grasping form fitting the object in question. Ungerleider L.G. and Mishkin M. in “Analysis of visual behaviour” (1982) provide more accurate information on the exact neural pathways involved. Here

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<sup>4</sup> A same kind of objectivation can be observed in the treatment of fire. Every organism is instinctively forced to retreat from it but the homo-erectus which apparently became capable to overcome that strong instinct and started to treat fire the same way it would treat an object: detached. Science (29.4.2004) refers to locations where indications of controlled use of fire can be found. It goes as far as 790.000 years back. The least controversial finding is situated in Amata on the French Riviera and is dated at 300.000 years. However, of importance here is that the mastering of fire followed the introduction of flint knapping and fits the same approach of decoupling and detachment. The force of the instinct seems to have been overcome in the same way the incorporation of a tool seems to have been left behind.

<sup>5</sup> Perception meaning interpreted observations.

too the description “object’s qualities” is being used. Goodale M.A. and Milner A.D. in turn deepen the research of which the results become published in 1992. They maintain the same terminology. But Kravitz et al. in a publication dating from 2013 opt for a different formulation. In a separate text box discussing the general functions of both neural pathways they clarify that “The key aspect of the ventral pathway representations is not that they are tied to particular physical objects, but that they capture *a stable configuration of visual information* (e.g. texture, scenes).” (stress added)

The question arises why Schneider and the other authors apart from Kravitz et al. maintain making reference to objects? Has the research they performed indeed shown that the visual stimuli evidently point in the direction of things called objects? Or did they without questioning adopt a tacitly shared conception? The articles point into the direction of the latter possibility. For these authors objects seem to be elements present in nature.

The term “object” however belongs to the same family as “event, condition and process”. They all refer to categories by virtue of a particular feature. What precisely that feature might be in the case discussed here is made clear by Kravitz et al. “a stable configuration of visual information”.

However “object” and “event” are already comprehensive categories, what Kravitz et al. refer to goes even further, more precisely it encompasses visual input testifying of a stable configuration<sup>6</sup>. In other words this is about the coherence of elements constituting a figure. An event how dynamical it might be remains to be the same event in virtue of this coherence. In the same way an object remains to be the same object in spite of the different perspectives (Abschattungen) in relation to the movements of the eyes, the changing position of the head and the body. Coherence is the keyword<sup>7/8</sup>.

The reason why different elements con-figure, that is make one figure, is a theme of central importance in this volume. Primary motives forge elements from the chaotic input to a relevant event. The functional reorientation of the hands after the hominid became fully bipedal configures the input of what will be “ready at hand” - in the sense of Gibson’s affordance or Heidegger’s *zu händenheit* - into the concept of an object.

The importance of the reformulation made by Kravitz et al. is obvious. Objects considered to pertain to the natural order and in that condition providing the very first step for further reasoning, a conception generally shared, exclude the more general or overarching “stable configuration”. But precisely the latter is giving room to the suggestion of an evolutionary transition from a perceptive cognitive event configuration into the direction of an object configuration, an idea which will be defended in this volume.

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<sup>6</sup> This could be called a formal basic level category in contrast to the event and the object configurations which in contrast to the former could be referred to as subordinate categories characterized by a semantic payload.

<sup>7</sup> See also Hummel, 2000.

<sup>8</sup> This is a very different approach than for instance Latour (1996) and Tylén and McGraw (Gallotti et al. 2014, chapter 10) take. Kravitz focusses on the coming into being of the concept, while the authors mentioned elaborated on the coming into being of meaning of objects in a particular functional context.





## 2. The object redefined

- initial approach
- the closing approach
- definition of “object” & stable configurations in animal perception

1. When after years of scrutinizing relevant publications in 2018 at last the insight dawned that the perceptual organisation of the Umwelt experienced by humans differs drastically from that of other animals I tended to consider both ways as radical opposite. Animals engaged in a event like scene ordered by dynamic Gestalt principles while humans felt confronted with a stable set of manipulable units present in front of them. This perspective allowed to distinguish sharply the characteristics of both positions.

2. However it became clear that the Gestalt ordering principles which I so far considered to be exclusively active in the event domain of animals, remained active too in the domain of the human perception of the Umwelt. I led to the insight that the Gestalt principles took a primordial role in any possible condition human or non human animals found themselves in but that in the hominin line the new development around the skilled application of the hands changed the character of the scene perceived.

My first version: What is of relevance takes the foreground in the perspective of the animal; humans on the other hand got confronted with a set of manipulable items in front of them. Both conditions were very different.

The actual version: What is of relevance takes the foreground and follows primordially the rules described by Gestalt psychology. However the importance of the role of the freed hands becoming ever more skilled in manipulation draws the visual attention to formal characteristics favourable for the execution of that practice. In a first phase it will be related to concrete and individual elements, a particular nodule after a while shifting in the direction of that particular type of nodules, in the end becoming sensible for formal characteristics like mass, weight, texture, rim etc. by this constituting a formal or abstract pattern. This pattern got generalized and projected onto every occurrence in the vicinity. While for the non human animal, the meaning of the environment is determined by the condition of the primary motives in relation to the abilities provided by the body, for the human an extra perspective came into play, moreover: it took a dominant role. For the non human animal the basic dynamic was about the regulation of the relation to what happened around, for the human that question became rephrased in “how can it be handled” (stress on “hand”).

What would fit the constraint of that pattern would in the end become called “object”.

At this point some remarks are in order.

First of all the later attributed denotation of “object” comes from the scholastic Latin “objectum” meaning: thrown in front of, placed in front of, con-fronting... in turn going back on the Greek “antikeimenon” or to lie opposite, oppose, withstand, repel. Obsessed as Westerners are with objects in the act of understanding all attention will go to the item itself while is as well stressed the relation pure and simple, not interweaved, not coalescent, not collapsing but taking distance from...

Secondly taking into account what already has been mentioned, “object” obtains its meaning from a very particular context. It refers to the set of characteristics favourable for manipulation. In that sense an object is to be understood as a function of manipulation. It is actually inextricably bound to it. It can only rightfully be understood as a pair, object can not be understood without manipulation and the latter generates objects in the perception, manipulable units or objects.

*Definition:* The term object is not a neutral denotation. It originated in the context of thorough developed manipulation and since then defined the world as a set of manipulable entities.

Thirdly, we are used to understanding terms as if they were no more than neutral denotations. One speaks of humans, minds, souls... as if it were natural kinds, elements existing in the world devoid of historic colouring, of semantic framing. There are objects in the same sense as there is air to breathe. But the question might be raised: do rhinoceros experience objects in their Umwelt, do earthworms do..?

This wants to stress that terms are used as if referring to something natural while at the same time neglecting or even being blind that its meaning is embedded in a particular and historical setting.

3. The idea that animals would not experience “objects” in their Umwelt is welcomed by incomprehension and disbelief. Objects are natural kinds part of the world, aren’t they? The German language has a fantastic word for this mood “Glaubensunwilligkeit”. It refers to an impossibility to accept the very idea. However, as explained under sub 2, object as a reference is tied to the act of manipulation hence organisms like bacteria, earthworms, fish having no hands can neither have something like an object in their field of perception.

That however does not mean there are no stable perceptual configurations appearing in their way of life. Because a Gestalt-figure rendered by an unique event can become consolidated to a stable figure in case the event is recurrent in a persistent way. A cat observing a mouse will not have to make an analyses and deduction each time anew. Repeated confrontation moreover confirmed positively by the fact it renders a meal, will consolidate a neural pattern adding it to an existing register of possible situations or preys.

So yes non human animals will enjoy stable patterns but no, they will not take the form of objects because the latter is bound to manipulation.

Addendum

It is remarkable that in the 14<sup>th</sup> century “object” still got understood in the sense of that what got thrown in front of or confronted with. This begs the question what caused the turning into a new rather neutral or natural indication. The only element coming to mind is that in the 16<sup>th</sup> century the Aristotelian way of defining something according to its essential features gradually made place for the approach as introduced by Galileo to describe entities by the whole of their measurements. That indeed left a quite neutral description devoid of a particular meaning. It is the stage by Lorraine Daston coined as mechanical objectivity in contrast to truth to nature as the previous mode.<sup>9</sup>

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<sup>9</sup> Daston, L. & Galison, P. 2007. *Objectivity*. New-York: Zone Books.

### 3. Object, natural kind or construct?

#### Introduction

“There was never selection pressure for internal ‘picture shows’ only for what vision could do in the service of external action.”

Goodale & Milner. *Sight unseen: an exploration of conscious and unconscious vision*. (2004:40)

The perceptive cognitive condition the human once shared with the species most akin can most appropriate be depicted in terms of Gestalt psychology. The following questions will be relevant. On level of ontogeny what might have been the initial condition and what is of importance from the perspective of developmental psychology? How is the earliest stage of life of the child characterized? What is the impact of the environment and what happens if that kind of influence remains absent? This is meant to be the main discussion. The second part will be exploring the suggestion of images existing somewhere in the head. A radical constructivist approach will round up this contribution on the nature of images as experienced.

#### 1. The visual characteristics in the initial condition

The choice to discuss the visual is obvious. This type of sensitivity plays a dominant role in the orientation in the environment, dominant because it falls back on the input gathered by 126.000.000 receptors compared to while hearing has to do it with a scarce 35.000.

1688. In a letter the Irish philosopher Molyneux depicts John Locke the following situation. Suppose, he writes, that someone born blind might recover the light in the eyes would he or she perceive the world as we all do? His question comes down to finding out if a naive realism would be justified or is what is getting perceived the product of a learning process? In his reply Locke points to the condition of a blank slate (*tabula rasa*). This, so he says will gradually be filled with the deposits of ongoing experiences.<sup>10</sup>

1749. Diderot publishes “Lettre sur les aveugles à l’usage de ceux qui voient”.<sup>11</sup> He explains that blind people who suddenly are able to see again will not at once understand what they see and that it will take time to relate what they already know on the basis of touch to what they now experience with the eyes.

Answering this problem fed by experimental data would only come some two hundred years later.

It follows from practices that are no longer considered to be acceptable as in the following examples. In some cases one in others both eyes of new born apes were blinded for a certain span of time. The purpose was to find out the effect of time varying deprivation (Austin Riesen, 1950) Hubel and Wiesel (1962) experimented with different environments in which kittens were going to be raised. One such environment only showed horizontal, another only vertical lines. In all cases the orientation of the kittens appear to be disturbed in a substantial way. Situations like these lead to the conclusion that recognition of the environment does not come in a natural spontaneous way but that external influences are of defining importance.

These findings became confirmed from a very different angle.

It happens that cataract is inborn. When occurring in Western countries it is observed quite soon and the appropriate surgical action is undertaken. In overpopulated countries for instances this might not be

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<sup>10</sup> According to Gordon, he does not argue that man has to learn to see as some psychologists seem to suggest. (2004:120)

<sup>11</sup> Diderot is one of the authors of the French “Encyclopedie” and the letter is on the subject of blind people for the profit of a better understanding by those who see.

the case, certainly not when birth is giving at home. In so far the problem might be identified in most cases the people cannot afford the medical treatment. Fortunately there has been a project aimed at providing some of these children, in the meantime already older than three to four years of age, with the proper treatment.<sup>12</sup> From a technical point of the view the chirurgical intervention was considered successful. However these children found it difficult to identify objects in their everyday environment. However from a very different context there are cases documented of people with similar experiences. Mike May became blind by accident at the age of three. Forty three years later he had surgery comparable to the children mentioned. It too was consider to be successful. However Huber et al. report “(...) despite of the years of fully visual experience and more than a decade of recovered sight, M.M. remained profoundly impaired at interpreting visual facial expressions” (2015). Somewhat further in the text “(...) we found very little to no evidence of high-level visual responses in ventral temporal cortex selective for face, body, scene or object stimuli”. (ibid:399) The reference made to object stimuli is of particular relevance for this discussion. Mark May in the end preferred returning to a life of tactile and auditive orientation.

Ackroyd, Humphrey and Warrington (1974) report on a similar case about a woman who became blind at the age of three and twenty three years later underwent surgery at one eye. Six months later she seem to be able to follow prominent objects but she could not identify the form. The act of following seems to be accomplishable without supplementary input. But the second part, the identification, seems to presuppose a proces of acquirement and consolidation of the learned. So these are two different subjects. Remarkable detail, this woman too preferred to return to a life as a blind person.<sup>13</sup>

After the surgery being able (again) to detect pulses of light is one thing, interpreting – that is recognizing in a meaningful way – is another. For the latter aspect the influence of the teaching environment is of utmost importance, remember the kittens of Hubel and Wiesel. But there is more. According to Kellman whose point of view will be discussed later, there seems to occur a critical period. If the process of formation did not occur sometime before a moment between the second and third year of life, then acquiring the needed interpretive competence becomes difficult. According to Cathleen Moore, professor psychology at the University of Iowa, in that case the candidate finds himself in the same conditions as someone who later in life tries to learn a second language. This has been confirmed by the results.

Concluding: interpretation of visual stimuli is an effect of forming which preferably has to take place before the critical threshold has been reached.

But what might be the consequences if this condition has not been fulfilled?

To start with, on the basis of the experiments executed by Riesen on the one hand and these by Hubel and Wiesel on the other, the effects of misleading formation are clear. The presentation of forms which are not expected results in a disturbed orientation.

For the case in an upbringing under standard conditions, a normal psychological development, Kellman psychologist at the University of California, offers a documented overview.<sup>14</sup>

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<sup>12</sup> Prakash.org mentioned in Held et al. (2011)

<sup>13</sup> The authors assume that particulars cells known as feature analyzers did not develop. This allows two possible interpretations. Or they are present from the very beginning but they have to be activated and if not the ability is lost, or they take form under socio-ecological pressure. But of importance here is the finding that if the external conditions are not present or the formation does not take place, the capability does not show. In line with the work of Hubel and Wiesel with kittens they suggest a critical period. Van Noorden et al. (1970) refer to a similar finding in their work with apes. However Ackroyd warns for extrapolation he however suggests a critical period in the human child somewhere between two and three years of age.

<sup>14</sup> In Gelman et al. 1996, chapter 1

Before the age of sixteen weeks a situation occurs which he calls following Wertheimer “das gemeinsammens Schicksals” or “common fate”. Referring to research by Slater et al. Kellman concludes that this condition probably does not yet occur at birth (1996:23)<sup>15</sup> But what is “common fate” then referring to?

Infants perceive elements moving together as a unity.

Movement is the first keyword. Ostrovsky et al. stress the primary role of movement in the context of perception. (2009) This fact is well known by birdwatchers and hunters. Conversely taking a frozen position, offers an optimal condition for observation. In a very different context, publicity makers augment the attractiveness of their presentation by adding movement.

Moving, moving together in particular is a configuration which best can be described in terms belonging to the conceptual register of Gestalt-psychology.<sup>16</sup>

So in very first instance some elements moving together attract attention. It becomes *figure* while all other elements remaining diffuse instantiate the *background*.

In the period between six to seven months a phenomenon called illusory contours is taking place. Interrupted dashes for instance are being perceived as a line. At one year of age the child masters edges with this opening the path into recognizing and identifying objects.

Once installed it dominates the way the world is perceived.

The illusion provoked by the Ames-room provides a striking analogy. It has to be stressed that this illusion has to be experienced under particular circumstances i.e. or seen by one eye through a peep hole or seen as a projection on a screen. (\*)

On offer is a frontal view on the sides and the back wall of a room, the latter ornamented by two rectangular frames (such as windows or empty picture frames). The illusion experienced is that the same person positioned in the left back corner seems to be only half in size then when positioned in the right back corner. How can the same person show a different height in one and the same room?

This illusion exposes an underlying principle: what is known determines what is seen. In this case it is known that the side and top-bottom lines of a room are straight and rectangular connected. With the anomaly seen the room is not questioned – it is taken for granted that it is straight and rectangular in the corners, instead the difference in height of the same person is experienced as extremely odd. Or what is taken as common knowledge primes what is actually seen.

In the same sense once on the level of common knowledge the world is taken to be full of objects this knowledge will organize what is perceived in a dominant way.

There are in this case of course more factors playing a decisive role.

That knowledge does not stand in isolation. It is part of a more general scheme of mediated manipulation in which objects take a central position. Secondly, reference has to be made to the chapter in which the irreversible character is discussed because the same processes play their part in this case too.

(\*) If not seen through a peep hole or projected on a screen, stereoscopic sight easily unveils the distortions in the makeup of the room.

So far for a sketchy overview of the developmental dimension.

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<sup>15</sup> “Slater et al. concludes that the perception of object unity requires a period of development in infancy” (Gordon, 2004:36). Piaget in turn concludes that the perceptual abilities at birth are very scarce. (1954) Hebb observes that the perceptual formation on the basis of experience develops quite slow. (1949)

<sup>16</sup> This got introduced as a reaction on the practice of structuralism to take a given apart into explorable constituents. Gestalt-psychology on the contrary focuses on the whole.

But the question arises if someone like Mike May who in the end choose to take up a life as a blind person again instead of visual stimuli as guidance, does not experience objects? Most probably he does. After all, after the explosion taking place in childhood he did not end up in a void. His living environment acted upon him providing clues making use of other perceptual capabilities, moreover supplemented by special schooling.<sup>17</sup>

What is of importance is that recognition and identification of an object – in the very first instance a conceptual ordering raising up from out a Gestalt-configuration – has to be learned, be it visual or by other perceptual channels.

In summary

In first instance elements moving together are perceived as a unity best referred to as a figure in the sense meant by Gestalt-psychology. It is probable similar to the condition the hominin becoming the human in the end shared with the species most akin.<sup>18</sup> This idea finds illustration in the study of feral children (D.K. Candland, 1993)

Secondly, the recognition of an object as a sharply demarcated entity standing on its own and clearly distinguishable from other entities is the effect of a process of environmental influence, in particular implicit education. Meaning that the newborn finds himself thrown in a social context in which every participant makes use of a shared conceptual framework in which objects are presented as if it were entities belonging to the natural order. At offer is a world as a self evident fait accompli.<sup>19</sup> If this might remain absent in some sense as in the case of congenital cataract, experimental deprivation or a condition of blindness caused by an accident, then a disturbance is taking place, a disturbance in relation to people who partake enculturation in a normal way. This results in difficulties to identify objects, not only in the sense that the item in question fails to be named, but to recognize some configuration that normally would be called an object.

Long story short: objects are not entities belonging to a natural order present in the world prior to any act of perception. The recognition of a configuration as an object results from an educational process.

The following remark has to be added. The learned configuration identified as an object does not eliminate the older (Gestalt-)figure configuration.<sup>20</sup> Both can best be imagined as the poles of a continuum. The condition of the primary motivation of the moment will define which pole will take the dominant role. A high degree of primary motivation will make the *figure* dominant, in case of a lower degree of intensity then the object configuration will fall in place.<sup>21</sup>

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<sup>17</sup> "The newly sighted are not simply people who lacked vision, but people who have learned to live with their other senses" (Gordon, 2004:34) It is remarkable that an observation like this not only expresses that the recognition and identification of objects is acquired making use of other channels at the same time remaining silent about objects being elements belonging to the natural order of being products of some constructive input. The way it is suggested it is as if without any question objects are indeed things belonging to a natural order.

<sup>18</sup> Reference made to Darwin in chapter two of *The Descent* "the fundamental intuitions must have been the same" and "My object in this chapter is solely to show that there is no fundamental difference between man and the higher mammals in their mental faculties"

<sup>19</sup> Alain Prochiantz molecular biologist at the College de France, observes that a homo sapiens not submitted to culture in biological sense remains a homo sapiens, but then one without language, without tools, without everything constituting the encultured human being.

<sup>20</sup> Further discussed in "The object redefined".

<sup>21</sup> Compare with Gordon "(...) it is possible that we can perceive constructively only at certain times and in certain situations. (...) If perception is neither a set of capacities fully determined at birth, nor completely learned during life, then in terms of theory there must be something analogous to a pendulum that can swing between these two extremes." (2004:140)

### **Afterwards added comment on the contribution of Kellman**

I have been rereading the conclusions formulated by Philip Kellman in chapter 1 The Origins of Object Perception in *Perception and Cognitive Development* (1996; Gellman & Kit-Fong Au, Eds.)

It provoked some comments worth mentioning.

1. "For Piaget the adults seemingly direct and immediate perceptual contact with physical objects results from a long process of associative learning."

This suggests that the object – in the experience - is not a given to be discovered but that the "object" rising in awareness is the result of associative learning. Does that imply that the said objects have a prior existence and only become present in the awareness after the subject having learned to recognize these? No, it does not say that. But it seems to be tacitly suggested by the statement.

On the contrary proposed is that objects as instances had to come into being – only or uniquely - by a gradual process based on associative learning.

How is this to be understood?

There had to be a very first time for an object to appear in some hominins' awareness. And if indeed, that appearance followed from a process based on associative learning – the interesting question being: association what with what? – the coming into being of the object had to be the fruit of a gradual composition of relevant features in the environment into a pattern which in time would become coined "object". It is not the unveiling of some instance already as such existing.

Further the stress put on the associative learning by this making it a core element, is extremely relevant for the approach in *The Forgotten Transition* whereby an item provided with a first order or original meaning is obtaining a secondary one transforming that item into a second order stimulus provoking a displacement in the experience. It is precisely that which opens the realm of self induced imagination in turn opening the gateway into the composition of narratives.

On the next page (38) one learns that "Object perception begins very early...".

Here a similar argument can be applied. If it begins very early, it begs the question what was present before that moment of beginning and most importantly, how could one have had knowledge of that condition taking into account that this very knowledge only started on the moment indicated as the beginning?

Therefore Piaget's insight is a revelation compared to the commonly shared conviction that objects are units existing in the world, disregarding the presence of organisms eventually capable of recognizing the alleged objects.<sup>22</sup>

In summary it states that objects are constructs in the perception based on association. And as mentioned, an association is not a condition or process standing in isolation. It involves *instances* to be associated with.

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<sup>22</sup> Reference to another part of this volume "Object, natural kind or construction?"

It is not the place here to go further into this but my answer is predictable. It is organized by the condition of the primary motivation connecting with the way the environment is getting interfaced i.e. through the abilities of the hands.

Kellman observes that Piaget not only introduces a novel insight but at the same time remains classic in that he apparently takes up a *tabula rasa* condition coined by Locke. A correct observation as indeed Piaget seems to overlook inherited predispositions and the condition of the primary motivation of the moment. But in my opinion this does not affect the value of his ground breaking insight.

2. Next Kellman turns to the ecological approach as proposed by Gibson.

“Examples of functionally appropriate functional behaviour by newborns of other species illustrate the plausibility of the notion that perceptual systems are adapted to perceive objects *in the same way* that fingers and opposable thumb are adapted to grasp objects.”

The text refers to other species – however being an animal too why should it be any different for human newborns?

Further, “in the same way” suggests a parallel.

But is it really only a parallel or, could it not be the case that there is a stringent intertwining occurring in the sense as suggested in *The Forgotten Transition* (Gilbert, 2018). Driven by the urge to negotiate the environment, the form and abilities of the hands as first rank interface select precisely these characteristics to form perceptive cognitive and motor configurations locking into the said abilities of grasping hands? That is a major difference in understanding the relation. In short, hand and eye driven by the primary motivation are the selective and constitutive determinants bringing forth an “object” configuration.<sup>23</sup>

“The ecological promise that perception provides meaningful world from the start (...)”

Further on the same page (38) on the perceptive abilities of adults “(...) there are multiple sources of information (*in play*), such as information carried by motion, related to perceived depth, and in static spatial relationships.”

The last sentence, contrary to the first, suggests a stance of distance taking as if the human involved in perceiving is some sort of passive instance which has to be fed information first in order to take proper action. This reflects the scientific staging around an independent and fully detached observer, an almost asexual creature, certainly unmoved. While the first sentence expresses meaningfulness from the very first moment. Indeed even the newborn is a demanding recipient. The condition of the primary motives he is in colours occurrences relevant in relation to that condition with meaning. The condition of being stripped of meaning is an artificial abstraction from a particular – the scientific - point of view. It might perfectly be imaginable but as soon as there is a living organism involved impossible.

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<sup>23</sup> This idea has been mentioned in *Script*, a simple introduction into anthropogenesis, chapter 3 in *The 5<sup>th</sup> Ape*.



On page 41 we learn that "Perceiving unity and 3-D form from motion is possible long before the infant can parse stationary scenes into objects and represent their shapes."

This stresses the primordial character of motion which translates into the conditions of an event rather than in terms of distinct parts moved by mechanical intervention. As explained in *The Forgotten Transition* education creates a continuum with on one pole motion-event combination and on the other the through education acquired object-mechanical movement combination.<sup>24</sup> The actual character of the situation at hand (sic!) will determine in which direction the perceptive cognitive configuration will be organized.

Rounding up these musings after rereading the chapter mentioned, it shows a remarkable character which I have noticed earlier in a position taken by the theoretical physicist Brian Green. He declared that he was only able to describe the world in terms of measurements and never could explain the essence of nature. In my opinion this expresses two simultaneous held but very different approaches which actually do not tolerate one another. Dr. Green acknowledges that he only is able to describe the world in terms based on measurements, and mathematical models but these have to be confirmed by measured observations. He therewith agrees with the end of what is obtainable and at the same time holding the conviction that there is an essence escaping grasp. It is either one, or descriptions based on measurements are the end of the story or they are not and the unveiling of an essence might well be difficult but lies within reach.

Something similar is going on in the actual approach by dr. Kellman. He on the one hand accepts "the ecological promise that perception provides meaningful world from the start" while on the other hand he treats the infants discussed as passive – meaningless and stripped of motivation – organisms which have to be driven to action by external stimuli. As mentioned, any organism is driven from the very first moment and instantiates meaning based on the relevance of an external fluctuation in relation to the condition of the primary motives. Each and any organism is from the very first moment motivated and full of meaning. That should in any instance be taken into account.

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<sup>24</sup> On the Object, sub *The Object Redefined* (On Series).



## 4. On images in the head

### Introduction

Being aware of a world out there taking the form of an image experienced is one of the characteristics setting the human apart from all other animals undergoing the world in a direct way. It is therefore worth spending some considerations on this subject. Two contributions written on different occasions will be offered. The first will be on images in the head, the second on a radical constructivist approach on this.

### Images in the head

What does it mean to have images in the head? It is quite an unusual question in relation to what Pylyshyn observes “We know what it feels like to see. We look out and see the world, and we cannot escape the impression that what we have in our minds is detailed, stable, extended, and veridical display that corresponds to the scene before us.” (2003:2)

Is there as Dennett formulates a Cartesian theatre in which an inner visual show is taking place? Is there something occurring similar to a movie performance, a series of consecutive images? The views are divided. Stephen Kosslyn goes in the direction of a photographic depiction.<sup>25</sup> What Zenon Pylyshyn proposes could be called prescriptionism. He suggests that a faint visual impression is raised on the basis of some prescriptions in the sense of “suppose a cube...”. This has a stronger appeal to me because it is in line with earlier suggestions about stimuli of 2<sup>nd</sup> order reactivating neural data on the subject named.

The goal of this contribution is not offering an extensive discussion of the subject but to emphasize the constructive contribution. One also has to be aware of the difference of the physiological substrate with the phenomenal dimension.

Going back to Kosslyn and Pylyshyn, there are also suggestions combining both positions such as these formulated by Allan Paivio (1978) and Michael Tye (2000). But whatever the proposal it will be obvious that there is not a theatrical infrastructure present in the brain. This begs the question: what does it actually mean to say that there is an image in the mind?

Textbooks love to publish a Cartesian depiction showing an image entering the eyes, which further is getting reversed from left to right and at the end of the journey projected upside down. As an extra, also a blind spot is getting mentioned, leaving only a very small area producing a sharp “image” with colour-blindness on the borders and the continuous succession of saccadic movements. There is absolutely no doubt that all these facts are justified but what about the experience of “seeing” an image?

Could it not come down to a specific type of awareness which has no photograph like characteristics at all but is taken for an image because that is what instances of awareness provoked by stimuli entering the eyes are named?<sup>26</sup> In particular more so because of its historic anchorage in the invention of the black box followed in time by the camera producing a depiction characterized by a one on one correspondence. The Greek “eidos” was not exactly understood as an image. In the middle Ages what the eyes produced was not so much a picture neither but an emanation of reality. That particular idea of seeing “a picture” indeed appeared rather recently.

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<sup>25</sup> What is summarized here a simplifications. For a more elaborated overview, Pylyshyn (2003)

<sup>26</sup> By way of analogy let us take sadness. There is a certain type of psychic excitement which becomes called sadness, but is there really something existing in its own right which is sadness? In the same way, an impression of a depiction is getting experienced but is there really a depiction existing somewhere?

But how to understand the man born blind also proclaiming to see an image?  
It begs the question what the act of seeing brings forth?

What has been explained so far leads to detach “the seeing producing an image” as a conceptual framing from a strict visual connotation and to understand “image” no longer as a picture but as nothing else than an effect in the experience. In that sense it has more to do with a general type of experience raised by an amalgam of stimuli constituting an overall impression.

Seeing a picture then comes down to a posterior isolation of a selection of features. At first one gets taken by a general impression. Then the focus formed by the local culture acts like a scalpel, isolating these features which are considered to take foreground. So the general impression is taken apart into a visual, tactile and a scent component. The influence of the local culture and historical factors such as the invention of photography has been mentioned. But we should not neglect the fact that the visual channel is factually the dominant present ability for orientation oneself in the environment. It employs 126.000.000 receptors while scent has to manage with 10.000.000 still a significant number compared to hearing falling down to scarce 10.000. So disregarding the mentioned cultural historical influences, the suggestion of seeing images might not come as a surprise. In that sense it seems natural to raise the metaphor of a “movie theatre in the head. Observe however that a movie offers a flat two dimensional representation, remarkably the same in experiencing images in the head unless we explicitly force ourselves to produce three dimensional constructions.

Organisms do not live in a world as a set of decomposed parts which they have to join in order to experience what is going on. They experience the environment as one dynamic *tableau vivant* in which what is of relevance forces itself as a bump onto the foreground.<sup>27</sup> But certainly in Western culture, taking things apart into smaller constituents is taken in with mother’s milk in so far it became considered to be the natural stance in relation to the environment.

Going back to the initial problem “what does it mean to see – for instance – a flower?” the answer should rather point in the direction of an overall experience emphasizing experience and not the suggestion of something more picture like. The experience is one of meaning raised under the pressure of endogenous and exogenous stimuli.<sup>28</sup> It is however remarkable that the mentioned overall impression is brought forth with no more than ten percent by external input while the remaining is getting fed by dispositions, automated programs, deposits of previous experiences and functions which neurally are available. In that case what does a photographic image in the head pretending a one on one correspondence mean? Would it not be more appropriate to call such product a neural construct instead of a depiction? A casual observation: in the previous sentence two different conceptual frames are mingled: one referring to the workings, the other to the phenomenon.

Back to the subject of the image in the head. Suppose one is bringing the figure of a known person not met for a long time before “the mind’s eye”. Speaking out his or her name aloud as an outer stimulus or the desire to restore the contact as an inner will reactivate a semantic field or in other words the relevant neural configurations. That will give rise to a particular experience involving characteristics of the face, of the posture, of the way of moving and behaving, reminiscences of events in the past and all kind of important and even less important details. The impression will be characterized by specificity – it will concern this person and not someone else, and of also a sketchiness. The latter refers to the fact that the face for instance will not show as a one on one corresponding picture but rather as a configuration of

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<sup>27</sup> Cfr. J.J. Gibson’s ecological approach stressing the unity of perception and motor, the organism and its environment.

<sup>28</sup> For an early discussion on the difference between external input and the inner experience, Hermann von Helmholtz, *Ueber das Ziel der Fortschritte der Naturwissenschaft*, 1903:367-98, in particular 392.

shady patches more suggesting than depicting. So no sharp delineated contours will occur, neither zooming in on details. This vagueness could be attributed to the quality of stimulus. The eyes for instance do not grasp a general scene but a tiny fraction measuring two to three degrees while the focus jumps around five times a second. In the experience this composes a quite detailed depiction. On the other hand in the case of an inner or substituting stimulus such as a name, deposits are getting activated which at the same time are general instead of detailed but also fragmented because the raised content is referring to experiences which are of relevance. Take for instance a condition of parsimony, a vague impression of an aunt who was proverbial parsimonious will pop up – not that the same aunt had five dogs.

Llinas a Columbian neuroscientist is probably right. He argues that it in principal is no difference in having a image like experience fed external and one fed internally as in a dream.<sup>29</sup> In contrast with what was thought in de middle Ages, there are no images projected onto the eyes, but stimuli which are converted into electric-chemical pulses bringing neural tissue into action which in turns generate what we call and experience as an image. It needs to be stressed that it is about an experience and not a pictorial representation. The difference occurring between an external versus an internal stimulus can be considered to be a difference in quality of the stimulus. It can in a way be compared to the confrontation with “lemon”. A real lemon will activate strong salivation. The word or thought “lemon” as a substitute stimulus will also activate the same type of salivation but less rich, but there will in principle be no difference between both cases.

Everything points to the conclusion that there is actually no image in the head at all, in turn begging the question which representation of what is going on would be more appropriate?

All elements considered it might be obvious but at the same time remarkable that there is no one to one correspondence between the raw data reaching the surface of the eye and the result of having an experience which we call an image. What enters the eye is a tiny range of electromagnetic waves. So the representation of the head as an almost completely closed black box in which the processing is carried out is quite close to what is really happening. “Almost” because the eyes provide in relation to the whole of the box a tiny surface which is sensitive to some forms of input. Using the metaphor comparing the size of a periscope to the whole of a submarine, Gordon suggests a similar approach. (2004:127)<sup>30</sup>

These suggestions are more or less on par with an image used by Popper be it in a completely different context. He describes the scientific enterprise as a man in a complete dark room looking for a black hat (which even might not be present). In our case one can rightfully refer to a dark room which through small openings allows a particular type of input which does not have the character of a picture at all. What is getting processed inside the box is a physiologic product fired up by electromagnetic waves with a different number of vibrations. So in the experience seeing a tree, the only thing which can be said with certainty in relation to what is happening outside is that there is a fluctuation going on presenting itself as the bombardment of electromagnetic waves with a certain number of vibrations. This fluctuation has however to offer a certain constant number of vibrations and so patterns otherwise there would only occur chaos.<sup>31</sup>

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<sup>29</sup> A similar point of view can be recognized in the following work on toposemanticity: Kanwisher, N. Proceedings of the National Academy of Sciences of the United States of America, Vol. 107, No. 25 (June 22, 2010), pp. 11163-11170. And also in Mueller, R.A. Kleinhans, N. Courchene, E. 2003. Linguistic theory and neuroimaging evidence: An fMRI study Broca’s area in lexical semantics; Neuropsychologia; Elsevier.

<sup>30</sup> Gordon, I.E. 2004. Theories of visual perception. Taylor and Francis, Psychology Press.

<sup>31</sup> Gibson’s invariance.

But then something happens which has affinity with what is known as the stimulus error as described by Titchener and Wundt.<sup>32</sup> Someone engaging in introspection – which is the case in seeing images in the head – projects his experience onto the environment.<sup>33</sup> However on the basis of what has been explained so far it will be clear that there is no one on one correspondence between the experience generated by the neural tissue and what is actually out there. Taking this to be the case anyway is a mistake. But surprisingly enough that is what is done by anyone looking around in the world. This is the condition commonly taking as normal.

Realizing however the real nature of what is bombarding the eyes in contrast to the rich experience it renders, one might paraphrasing the early Chomsky by referring a poverty of the stimulus.<sup>34</sup>

On closer inspection this is also what happens in relation to other perceptual channels. There are no scents as such out there, there are no sounds neither, no such things as qualities. As sensations they are products of the workings of the sense organs in conjunction with these of the neural tissue. In the case of seeing the electromagnetic vibrations man is sensitive for a range of variations resulting in what might be called a rich world. The mole being nearly blind has far less possibilities however contributing to what in a similar way could be called *his world* which it should be stressed satisfies the said animal – it has no knowledge of anything else. The point is whatever the scope in quality, for any creature it seems to satisfy the need to negotiate the conditions it finds itself in. It is not a matter of finding the ultimate truth. As Trivers, Ortega y Gasset and many others observed the brain is not made to find the truth but support the organism in its task to survive.<sup>35</sup> That is what actually counts. Man is the only creature questioning that and making a problem of it for the very simple that he disposes of a toolbox allowing to formulate questions hence generate problems of that type. The mole doesn't.

### **Rounding up, what about the questions of images in the mind?**

This problem is embedded in the processing raw data resulting in the experience of seeing as the end product. "Vision" stems from the Latin "visionem" referring to the act of seeing. It is probably related to "following with the eyes". As an experience it did not call the problems mentioned. The act of seeing raised an emanation of what was out there; others took it for a reconstruction. It was part of life in a natural way in the same sense as taking a breath was. It was not problematic. If an artifact depicting a human for instance did or did not offer similarity, that was not really a problem. Take early Christian art. The faces are schematic, not personalized however they referred to a certain person. Similarity became a problem with the improvement of the technique making portraits. Striving to perfection in that field is characteristic for the Renaissance and it would reach its pinnacle much later with the introduction of photography. The importance of this is that the appreciation for something as pictures in the head got influenced by this trail. Are the pictures in the head similar to pictures produces by photography and holography?

A distinction has to be made between the operational and the phenomenal level. On the level of physics and physiology there is no such thing as an inner theatre in which pictures are getting projected. There are neural workings bringing forth experiences, a particular type of experiences, no doubt about that. But no pictures are produced. The phenomenal is the level of interpretation the mentioned experience. Split up somewhat artificially there are two branches of interpretation. One is based on previous experiences and

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<sup>32</sup> Discussed by Boring, E.G. 221. The Stimulus-Error. *The American Journal of Psychology*; Vol. 32, No. 4 (Oct., 1921), pp. 449-471; The University of Illinois.

<sup>33</sup> For similar but recent approaches cfr. Beau Lotto, also Donald Hoffman.

<sup>34</sup> Chomsky N. Review of Skinner's *Verbal Behavior*. *Language*. 1959;35:26–58.

<sup>35</sup> Robert Trivers in *The Folly of Fools*, 2002; Jose Ortega Y Gasset, 1949. *In search of Goethe within*.

is common in all creatures at least those provided with a nervous system.<sup>36</sup> The second level occurs only in those creatures able to compose a meaning giving story, a discourse or a scenario. However the appreciation raised on the first level is not put aside it is getting enrobed in a meaning giving interpretation. The idea suggested in the previous lines was that the flavor of the interpretation varies the course of history.

In that sense the idea of pictures in the head is a metaphor with historical roots. There are no pictures in the head. There is an experience characterized by the workings of the visual system which as a matter of fact is probably not picture like at all but which we have learned to interpret as similar to a depiction.

### **A final remark on the references made.**

The impression might rise that little attention was paid to available sources. That is correct in a way but not completely. In writing this contribution I allowed myself to wander around different ideas. But I am aware of the different strands in the literature, take for instance Gordon (2004), Bruce et al. (2007), Kimchi et al. (2008), Wagemans (2015).<sup>37</sup>

But on the subject of experimental setups aimed at discovering the presence or conversely the absence of inborn capacities Gordon observes quite rightfully “This are the sort of situations faced by observers in many of the classic experiments that have sustained empiricism. But none of these existed in the African grasslands, where human perceptual systems reached their present state of evolutionary development.” (2004:139)

This observation is related to what struck me in the beginning but at the same time had difficulty to get grasp on.

The research setups seem to be organized around three points:

1. an independent and objective observer outside the scene (God’s eye perspective)
2. a visual sensitivity or visual capabilities which are supposed to be present but of which the reach is not known
3. a set of diverse stimuli available to probe to supposed capabilities.

This is a setup characteristic to any laboratory situation trying to lock out any kind of subjective bias.

But Gordon’s observation is pertinent because anatomical and physiological systems did not develop under circumstances considered to be ideal in the context of a lab, but in a tension between primary motivation and the fluctuations taking place in the environment at that moment. Recall the reference made to Trivers. Being visual sensitive is one type of answer next to other options such as echolocation of the sense of touch. Subsequently this possibility develops in a direct relation to what is of relevance in function of the primary motives. The anatomical possibilities and the physiological workings are precisely functions of this situation. In the sense visual possibilities should rather be understood under these conditions and not in a setting of artificial sterility. In itself this already is a more positive orientation towards the subject but there is more. It would expose the conditions in which a transition from (Gestalt-) figure into an object configuration would become meaningful. It is not a coincidence that Gibson identifies the quality of affordance with the meaning of some implement.

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<sup>36</sup> The limbic system plays a central role in appreciating an incoming stimulus.

<sup>37</sup> Gordon, I.E. 2004. Theories of visual perception. Taylor and Francis, Psychology Press. Bruce, V., Humphreys, G.W. 2007. Recognizing objects and faces. *Visual Cognition*. Francis & Taylor. Needham, A., Ormsbee, S.M. 2003. The development of object segregation during the first year of life. In Kimchi et al. Perceptual organization in vision. London: Lawrence Erlbaum Ass. Publishers. Wagemans, J. (ed). 2015. The Oxford Handbook of Perceptual Organization. Oxford Press.

In what got presented, two strands can be identified: empiricism as proposed by Gregory and ecologism by the mentioned Gibson. The former explains how raw data are getting captured by the eyes and consecutively processed into a “visual” experience. Gibson focuses on the unity of the perceptive and motor dimension. In the literature it seems as if both are existing side by side as two very different approaches. To me they are rather complementary.

### **A radical constructivist observation on images in the head**

In a presentation of the World Science Festival probably dating from 2014, Sheila Nirenberg neuroscientist at the Cornell University projects the following scheme.

On the left side appears the face of a real world baby. The central part begins with a column of what should be taken as the different types of cones of which the activity transforms into electrochemical pulses followed by a row of spikes. This results at the far right side in the picture of the baby in this case generated by the brain.

The idea is clear: there is something out there in the world which after having entered the is getting processed in the brain bringing forth a depiction of what has been noticed out there. The interesting aspect of this presentation that is makes clear that there are no images as such reaching the eyes but mechanical-optical pulses being transformed into electro-chemical spikes and that the brain consecutively produces something which is getting experienced as an image. In short: the human does not see images, they are getting produced.

The conviction prevails that the by the brain generated image depicts the world how it really exists out there. But as Nirenberg clearly shows in her presentation, this is not the case.

However there is something not quite right with her presentation.

The offered presentation suggests a real existing baby-face in front of the eye of the observer, a baby remarkably similar to the picture shown at the right hand end. But if the retina only registers a series of optical pulses functioning in some mechanical way, how could it be possible that a baby face in front of the eyes is getting observed? In the same sense as there is nothing cat-like to the word cat, there is nothing baby-face-like to the optical pulses bombarding the retina. Only in the Middle-Ages was thought that objects in the environment projected minuscule pictures of themselves onto the eyes, but that idea has long been abandoned.

What is experienced is a product of the workings of the neural tissue.

But the criticaster will object “...that there has to be a baby out there in front of the observer?!”

This allows to refer to the confusion of different meaning giving frames of reference.

In first instance there is the day to day practice. Within that context any creature provided with the same perceptual apparatus will in a confrontation with the same situation perceive the same scene. Secondly, people whatever their language will interpret the input as the face of a baby. So on that level of experience there will be no problem occurring at all.

But that is not the frame of reference at stake here. From a pure theoretical interest the question raises into the statute of the pictures generated by the brain: are these depicting the world as it really exists out there or are these constructs, particular ways of conceptualization raised by and so related to disturbances in the chaos out there?

This is a very different perspective. The criticaster infers from the second option that the first – day to day life – would come down to a pure fantasy, which is not the case.



So far for this correction. On the statute itself, this has been discussed at large in other contributions.

I want to draw the attention to the movement taking place on the level of daily life. It actually is similar to what is in the literature known as the stimulus error attributed to Titchener and Wundt early twentieth century. In that case the clinic psychologist expects an answer from the patient fitting his own frame of reference. It is a case of projection.<sup>38</sup>

But that is also what Nirenburg shows in her presentation starting with the face of a baby in the real world. What she should have shown to begin with was a chaos with certain invariances but nothing similar to a photograph of a baby face.<sup>39</sup> She then in the end should have projected the image generated in the brain onto the mentioned chaos because that is what the observer experiences to perceive: not the initiating chaotic configuration but the experience at the end of the neural processing.

Moreover the constructive character of the workings of the perception and of memory are well known in psychology and not contested but these are never or seldom related to judgments about the knowability of the world as it exists in itself. Remarkably many disciplines still seem to be mesmerized by Plato's view on true knowledge on the one hand, naïve realism on the other. These discourses account knowing the world as it really out there for possible, maybe not immediate, maybe not easy, but overtime in principle possible.

Seeing pictures in the head considered as photographic depictions, the idea of being able to know the world as it really is out there are discourses grounded in history. But how could an organism, any organism step out of his embodiment and perceive the world as it really is out there? This question is inexistent for the mole under the surface and for the ape the human is akin to. Only the human by his ability to consider and to ponder can confabulate questions like these.<sup>40</sup>

Distinguishing both levels is not without importance; it reaches further than a mere theoretical interest. The discourse labeled naïve realism assumes the existence of an objective reality independent of an observing instance, on top of that the fact that this reality can be known by man. In their opinion this will not take more than dis-covering or un-veiling; a type of intervention which will improve with the perfection of the instruments sustaining perception. This conviction is held by many scientists, tacit or explicit. Even biologists and psychologists quite aware of the limitations of the senses often produce formulations respecting the idea of an objective there existing reality.

Observe however that the concept of a "there objective existing reality" is indeed a conceptualization, a draft, a model expressing a particular perspective on things.

The alternative view recognizing the formative functions of the body, accepting fully all consequences of this fact, opens a gateway into changing these ingrained convictions. After all, constructs can be altered, can be reconstructed.

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<sup>38</sup> For an extensive exploration about projection being part of constructing a perceived reality, Hoffman, 2019. *The case against reality*

<sup>39</sup> Invariances in the sense meant by Gibson.

<sup>40</sup> *Philosophy as If*, by Hans Vaihinger of the many fictions we live by, is highly recommendable in that respect (original 1911, first translation 1924) .



## 5. More than one object

### Abstract

The central topic in the first hypothesis of “The Forgotten Transition” (2018)<sup>41</sup> is about objectification. It has been suggested as the turning point in the development of a branch of species, in particular for the way that species from then on would relate to the Umwelt. It lifted it to an exceptional position to say the least.

But there are also other appreciations. Husserl for instance in “Die krisis der europäischen Wissenschaften” (1936/1954) thinks very different on the subject. It has pushed pre-scientific knowledge into oblivion. Worse, it is considered to be responsible for a rampant mentality reducing all what exists into exploitable matter, into a commodity. The idea of alienation is not far off.

Two very different appreciations, what to make of it?

### Putting interpretations in a historical in perspective

#### On the first meaning

Through the different chapters the positive approach already enjoyed a wide interest. The following will only offer a short reminder.

The difference between the tools used by apes and humans cued the insight. The tangible implement that can be observed can however not exist without a – be it invisible – cognitive complement. But early humans and not-human apes are akin as Darwin observed, not only on the level of anatomy and physiology but also in undergoing the same conditions of existence resulting in a similar way of negotiating the problems encountered. Precisely for that reason the clearly observable difference in tools also suggests a diversion on the level of perception and cognition. The early human must in spite of the many correspondences have been seeing the Umwelt in a somewhat different way.

In the book the material component has been called the object<sup>42</sup>, the perceptive cognitive dimension the objectification. It is important to consider that whatever the cause of this difference, it is always the way the difference is publicly observable, the so called phenotype that has to prove efficacy. The realm of the observable is composed by being, by action, by interaction, by manipulation in case of the hominin whose forelimbs no longer are recruited for locomotion so the hands become more free, hands engaged in mediated manipulation... all factors of importance.

It justifies labelling this process as technique. The Greek “*tèchne*” refers exactly to that. It is this skill observable in public underpinning the success of the species in maintaining itself. It is the catalyst making the species particular. Moreover by a process of association the means sustaining manipulation open the gateway to initiate imaginative displacement in space and time thus providing the basis for later construction of narrative and scenario-building.

Long story short: the world is full of objects inviting the hands to act and objects becoming available to act upon the world in a purposeful way.

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<sup>41</sup> Gilbert, J. 2018. The Forgotten Transition. Gompel&Svacina.

<sup>42</sup> It is not superfluous to remind that at first there was the tool gradually through abstraction and generalisation becoming a concept much later labelled an object.

### **On the second meaning**

Is that the topic Husserl points the arrow at? Apparently not. He criticizes a particular historical interpretation holding a certain appreciation.

As explained the first chapters were about a branch of hominins using means in a different way in negotiating the environment compared to the practice of species most akin. One of the side effects allowed initiating in the imagination displacement in time and space. The combination of the manipulation of implements in function as 2<sup>nd</sup> order stimuli and the raised effects in the experience opened the gateway into composing scenarios, simple at first, more complicated with time. These interpretations or versions are taken to be natural truths. If a tree was attributed a soul then the tree was considered to have a soul indeed. South American native Indians considered the sun to be of divine nature, for the Persian Zoroastrian this role was taken by fire etc.

The fact of importance in this case is that the content of a version whatever it is about, is variable in spite of the fact that the people involved were convinced of the undisputable natural invariant truth of it. It is this variability across historical periods that will be discussed further.

### **Starting point somewhere in historical time**

The Pre-Socratic period will serve as stepping stone. The way the world was understood would be called magical mythical today, but as mentioned it was taken to be absolutely depicting reality.

The position of the existing deities did not get questioned neither that of half deities living amongst the people. Life was the effect of the favourable or adverse relation to them. Verbal expressions have to be taken as articulations of existence. It is "that what is"<sup>43</sup>, and it does not become questioned. It is also called the pre-scientific way of thinking<sup>44</sup>, a mode shared across cultures. The religions based on the book offer revelation. Also the Veda's come down to the divine instances revealing what life is and how to live in order to do that in the most natural way. This is basically the situation when according to Geoffry Lloyd (1991) in places around the borders of the Mediterranean a particular condition occurs.

The coast was populated by merchants being well-off. Resources were available allowing the descendents a good education in which discussion and debating was encouraged. But the problem arose that no criterion was available in order to decide which version in the debate could be considered to be most decisive. That open or problematic situation was the background against which "nature" gained a new meaning and status. It became general and more abstract concept equated by Aristotle for instance as that what is true in most case and at the same time the end, the ideal (ibid: 428). It acquired the character of something against which that what was open in the discussion could be balanced. With this instead of different versions as articulations of existence to coexist, a new era started in which different positions could be judged against a neutral instance.

But remember that the articulation of existence was not questioned, it was boldly stated "that what is". But now the latter became a placeholder for the new understanding of nature which over time it provoked

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<sup>43</sup> "Hoti esti" in ancient Greek. Compare also with the following "Das Seiende ist das Aufgehende und Sichöffnende, was als das Anwesende über den Menschen als den Anwesende kommt, d.h. über den, der sich selber dem Anwesenden öffnet, indem er es vernimmt." (Heidegger, *Die Zeit des Weltbildes*. In *Holzwege*; gesamttausgabe 5. Frankfurt am Main, Klostermann, 2003:81. What Heidegger explains is that man finds himself in front with the world as ignorant but learning. He does not master the world but is exposed to it. In that position man can do nothing but formulate a declaration. In that the verbal expression collapses with what actually is at hand.

<sup>44</sup> It is similar to the naturalistic way a child in the earliest years of life experience existence.

in an evident way a question: “what is that – that what is, what is the character of that what is?” Nature as an independent acid test, became questioned, it became a problem in itself by this introducing a new period in the history of Western thought<sup>45</sup>. It as a matter of fact discerned Western thought from other cultures. Of course some also brought forth insights which could be called “scientific”<sup>46</sup> but always in function of some deity. Think of middle Ages in the West when Christianity was dominant. Knowledge had to be found *in order to* enlighten the workings of God. But what happened in the period mentioned was rather secular<sup>47</sup> and it defined a particular perspective on the world. What was the nature<sup>48</sup> of the world that was? Lot of answers became at offer. Some suggested that water was the ultimate substance, others thought of the earth, or air or fire or atoms or even an all encompassing unlimited condition (apeiron).

To remember is

- that instead of a mere articulation of existence
- a stable instance got introduced allowing the expression of the previous to be evaluated
- this in turn provoked in a self evident way the question into the nature of that what existed

This refers

1. a) to the establishment of a particular way of thinking about the world, and
2. b) it introduced a theme, an object which could be questioned – the main event however being the introduction of object as a type.

Taking a step back the following question can be asked.

As the term “object” has been used in both versions, would there be a relation and if so in what sense?

In version 1 what became called an object came down to focusing on a particular type of implement sustaining action in the end leading to the reorganization of relevant input into a stable pattern. Object had a place in action, in manipulation and could therefore rightfully become labeled technique. The meaning collapsed with the use.

In time that very same object obtained a particular use. It served as a stimulus of secondary order and as such it reactivated reminiscences of events taken place in the past. This opened the way into composing narratives about events experienced in the past or others planned to be realized in the future, so to compose stories and scenarios.

The structure of this act of reactivation comes down to a material cue to be necessary in order to initiate the reactivation mentioned. But as the discussion in the previous paragraphs showed, the semantic payload fired up by that act is prone to changes.

Referring to an object which became problematic (the nature of what is) is a very different thing than the material object used to provoke. In short, however the same term is used, and both are related, an object taken in technical sense is very different to what is becoming an object on the semantic level.

The first fits a function and is as such stable, the second is a meaning prone for changes against a changing historical background.

The changeability of the semantic content should however not be considered being noncommittal. Whatever the guise the “story” adopts, ideology, religion, philosophy, scientific or common sense, it

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<sup>45</sup> The installation of the scheme of the radical caesura between what is and what is not is said to have introduced the typical western understanding of the World (cfr. Aristotle’s law of the excluded middle).

<sup>46</sup> The term used as a shorthand here for all what renders information about the world.

<sup>47</sup> That is an exaggeration too because most of what the Greeks did was in the light of finding out how to live in the search of a virtuous life.

<sup>48</sup> In the same sense as the question “what is the character of that person, what is his nature?”

underpins the understanding of the world and as such guides behaviour.  
So far for the different meanings of one and the same term “object”.

### Husserl's critique

But in the introduction Husserl's critique got mentioned and as this by many is taken to be of determining importance, it is appropriate to – quite superficially – explain how I understand this development. Remember that we started by mentioning that descriptions of the world came down to mere articulation of existence. Then we got the introduction of nature in the sense of a neutral outside of human subjectivity existing instance – an object to be considered – in turn provoking the question what the character of that instance might be. In that sense nature became objectified and that is the first meaning relevant in this depiction.

We now take a step further into the middle Ages demonstrating a particular idea about the character of an object mainly going back on ideas from Aristotle. Apart of a thing standing on its own, its dynamic character was one of the most striking features. It had a purpose, a natural movement. Light objects were inclined to go up, heavy ones to go down. A stone for instance fell because it wanted to be joined with the place it was most akin with. Blood as another example was the emanation of the force of life. When a dead penalty was executed, the blood was collect for people in that case older then the executed, to be consumed. As such they expected to profit from his force of life. There are stories going of nobleman drinking the blood of very young children for that very purpose.<sup>49</sup> Further illustration of the mentality in the middle Ages encompasses comparison of micro and macro cosmos. Crollius an alchemist from the 16<sup>th</sup> century also practicing medicine considered the stars in the nightly sky as connected to particular plants down on earth. In all this correspondence was an important criterion. The windings in a walnut for instance looked very much like these in a brain, some it was considered a good remedy for curing headache. In short the world was full of signs. They were considered to be signatures of the meaning given by the supreme. Counting with Arabic-Indian numerals had to be avoided. Zero was a sign of the devil and as such completely out of order. Remind that the introduction of the decimal system dates from no earlier than the 11<sup>th</sup> century, in Western Europe only since the 16<sup>th</sup> century. The bible was written in Latin and God's meaning could only be deciphered by the clergy. All this might not seem very relevant for this exposition, but the goal is to picture somewhat the atmosphere of dynamism and all being full of meaning in contrast with what will be coming in the following centuries.

This is not the place to go into detail, but a tension between Christian religion and philosophy of nature<sup>50</sup> the form struggling to harness the latter will not come as a surprise. It is against that background that Galilei<sup>51</sup> appears on the scene stating that God did not write one book but two. The book in which nature was deciphered in the language of mathematics supported the endeavour to understand God's meaning expressed in the bible. This type of idea did not come all of the sudden. The Franciscan monk Roger Bacon had, three centuries earlier already, encouraged experimentation. Bishop Oresme cautioned not to accept knowledge from the past all too easy. One has to be aware of the fact that then the conviction lived that

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<sup>49</sup> Not so unfamiliar thought: devour and eat your enemy to obtain his forces.

<sup>50</sup> The diversion between science and philosophy as it is known today dates from the first half of the 19<sup>th</sup> century.

Before that period there existed only philosophy of nature encompassing all possible strands aimed at clarifying what was going on in world.

<sup>51</sup> Here he takes the role of an exponent for the changes in that period.

everything already was discovered. In that respect gaining wisdom come down to taking cognisance of the writings of the elder. On another track but equally of importance: mathematics enjoyed an increasing attention.

Experiments characterized by the measurement of conditions, noted in figures which could be compared and as such guiding new trials became ever more important.

Regularity was not new at all, day and night, the seasons, the crops, the migration of birds... all showed a kind of regularity. But the form expressed now was the fruit of human intervention. Think of Tycho Brahe, astronomer, astrologist and alchemist who registered with utmost precision the positions of the heavenly bodies allowing prediction.

These are only a few examples of a system which would change the way of gathering knowledge profoundly: the measurement of positions or conditions, changing positions followed by measuring anew, comparing the results, bringing patterns to light and prediction of the result of interventions still to be executed.

In his masterly book "De mechanisering van het wereldbeeld" (1950)<sup>52</sup> Dijksterhuis emphasizes the part of mathematics. Mechanic comes down to the study of movement and that exposes itself as sequence of measurements. This is one of the steps taking demonstrative explanation in the direction of ever greater degree of abstraction. This transition seems silent but it is of tremendous importance for the way science is going to develop.

But what should be in focus here is that the Aristotelian object characterized by potency and dynamic is not the most suitable model for an approach of this type. The measuring Galilei did not need all that dynamic, he confined the focus to static moments. A side effect of the particular way of doing things was that if an action was executed under equal circumstances then the outcome could with certainty become predicted. These conditions initiated the object to become redefined as something present there, inert, prone for manipulation and measuring in a four dimensional frame of reference.

It needs to be stressed that the redefinition never was an intentional act but the consequence of a practice which proved to be useful.

Concluding based on this move over time the appreciation of how an object was taken changed drastically.

The new approach promoted the efficiency of human intervention in an exponential way. The registration of measurements became an essential part of the description of the world. It allows registering electrical phenomena in tables, by this demystifying them and facilitating manipulation. Even human ingenuity one considered a gift from the divine became prone for the measuring intervention as is the case for labour. The latter is getting expressed in the language of numbers, getting analysed, divided and reorganized into new combinations improving efficiency and effectiveness. This is a movement which is not that easy to counter.

But of relevance in relation to Husserl's critique, the human seems to show an unstoppable propensity to expansion in a way not occurring in other animals. Predators limit their actions to what suffices to survive. Even hoarding species refrain themselves to a certain period. But in the human species all boundaries seemed to have disappeared. Think of the Acadians, the Persians, Hellenism and the Roman Empire. If something slowed down this tendency, then it was the limitations of the resources themselves. One horse offers the power of one horse by this exceeding that of man, but is at the same time restricted that the power of only one horse. But the new method allowed an exponential increase of efficiency and with this a deluge of conquests, colonisation and exploitation went off.

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<sup>52</sup> The mechanisation of the view of the world.

Precisely this mentality of an unrestrained tendency of exploitation, reducing all what is to an exploitable instance, into a commodity was Husserl and contemporaries a thorn in the flesh and the subject of strong critique.

As a historical report this was an extremely simplified version. The idea was merely to clarify the difference between the object in its technical function as a tool opening a new range of possibilities and, the spin-off allowing narration in which an object to be discussed is taking position. In criticizing objectification only understood as a relentless form of exploitation, other interpretations like the articulation of existence and the Aristotelian understanding are getting neglected. But most important, the awareness that exactly objectification embedded in a technical gesture which is responsible for all human characteristics, is lost out of sight completely.

### **The mind body problem**

However the following remark transcends the scope of the topic of this contribution, it would be a shame to leave it unmentioned. It is about an inadvertent but none the less important consequence of the redefinition of the concept of object.

Remember the atmosphere of the middle Ages, pulsating, dynamic, everything connected to everything else, any event not just an event but a meaningful sign, in every aspect life comes down to one dynamic tension.

We focused on Galileo in particular the practice of trying out, experimenting, noting down conditions in order to compare with later experiments. For that purpose he did not need more than the form characterized by measurable dimensions. The success of all this resulted in the object in the experiment gradually and unintentionally becoming redefined in terms of the mentioned characteristics. It became a form remaining passive in the scheme of experimental actions the scholar had in mind, every step of the process to be expressed in terms of measurement.

It immediately becomes clear that in an approach like this a lot of the object as understood in the Aristotelian sense was left out, not in the sense of pushed out but simply being superfluous.

But that did not imply that these dynamic dimensions evaporated and did not get missed at all.

These characteristics shifted in the direction of a corpus of already existing opinions on the mind. By way of illustration, the soul had to do with the very important religious dimension of life – deciphering the will of god and living according to his rulings while the mind had to do with intellect in understanding the world in most cases as a servant of the religious dimension.<sup>53</sup> But now the remnants superfluous in the mentioned movement became thrust upon these. While the first about religion and mind opened a more cognitive perspective in trying to understand and following the guidelines, the new payload had more to dynamics and perception with some overlap but also some very different content. So the mind became quite problematic getting hold of it.<sup>54</sup>

What is the picture to appear? On the one hand the world in its material guise understood as a system of mechanics and the psychic dimension becoming very different to that, escaping the laws of mechanics. What Descartes proposed, the *res extensa* following the laws of mechanic (Galileo) describable in mathematical terms, the *res cogitans* provided by God following very different lines.

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<sup>53</sup> For an informative introduction, *Philosophy of mind in Early and High Middle Ages*. 2019. M. Cameron (ed.)

<sup>54</sup> Different ideas were proposed about primary and secondary qualities, essences etc. The aim is that one grasps the fusion making the concept of mind problematic as never before.



This perspective a) introduces a sharp duality and b) the psychic side is an amalgamation of contents from the Middle Ages laden with remnants of Galileo's move. In the latter the actual so called hard problem can be recognized.

So Descartes did not invent this divide, he expressed it in terms most clear.<sup>55</sup>

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<sup>55</sup> For similar ideas on this development, E. Reed (1982); Costall (1981); and in Gordon "The Galilean doctrine that nature is composed of matter residing in physical space and time led to the Cartesian doctrine of the essential separation between the mental and the physical." (2004:147)



## On aboutness



### Impossibility experienced

How could it be possible to take at once the position of actor and the perspective of observer by this introducing a separation in turn introducing an experience of distance, even more of aboutness?

That is the conundrum at stake in this contribution.

After exploring structural characteristics of that position the attention goes to unveiling a historical meaning giving it a particular twist. Suggestions about the emergence of this curious stance provide the core. A last comment on a condition of alienation assumed to be following from all this rounds up.

### On aboutness and declaration

This contribution offers a comment on an article of Thomas Wynn in *Adaptive Behaviour* (2021) in which the author refers to non-linguistic systems of declarative knowledge. It clarifies in what condition declaration finds place and what the relation to aboutness is.

### Archimedes and the palace of mirrors

This also refers to the observer on the sideline more precisely on the performed act of reporting i.e. bringing forth narratives. The attention is directed on how the hominin evolved into a storytelling species as a particular instrument supporting negotiation of the changing environment. It further deals with the critical remark that if all is narrative then this contribution is too hence why should it have more merit than any other version (science versus religion for instance)? In order to provide an answer on this the model proposing the existence of higher order thoughts is getting commented on. Further the reasons to choose for operationalism are defended therewith justifying the methodological perspective taken.



# The independent observer, an impossibility experienced

## *Setting the frame*

There are two insights which I consider decisive because they come as irrefutable unless mysterious interventions would become introduced and accepted.

Darwin inspired the first one. The sketch of the tree of descent suggests a common ground for all species. It becomes particular important for species most akin, for the actual subject all branches belonging to the family of great apes. This shared condition is not restricted to the domain of physiology. Darwin in the *Descent of Man* already observed “the mental intuitions must have been the same”. This perspective helps in the sense that looking for explanations the common lies open in plain view.

Kant provides the second insight. The way the world is getting perceived is organized by the structure of the mind. Indeed the body is the selective and constructive at the same time confining filter rendering the world as a phenomenon.

Joined, the human perception of the world is in a definite way determined by being an embodied animal, a condition shared with all other species. This does not only come as the most plausible depiction of the fundamental human condition; it is a mystery how it could be refuted.<sup>56</sup>

The condition adduced allows one conclusion: the world perceived cannot be else but a construct brought forth by the organism. Be it an earthworm or a human, the environment experienced is an embodied construct. What is seen is in line with the character and the abilities proper to the body.

In short it is impossible to imagine how this condition could be transcended, left behind.

Imagine a pile of bricks allowing building dwellings of all kinds, from very large to a tiny house, an endless variation of forms and organizations. But despite this plethora of possibilities it fundamentally will remain a construction of bricks. Something similar is the case in respect to embodied organisms. Whatever the realizations brought forth, such as the apparent magic trick to think verbally, the determination and confinement following from the embodiment is definite and closing.

On the other hand any linguistic formulation suggests tacitly the taking of a position, a vantage point detached from the centre of embodied action. Take the declaration “I am in love”. It is considered a personal expression straight from the heart.

But on closer inspection, focussing on the structure of the sentence, it shows an observation.

An observation of some event is getting reported, in particular that someone referred to as “I” is in love.

## *The problem*

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<sup>56</sup> At the end of this contribution a note is added about the corresponding interest in the different approaches.

Taking into account the previous paragraph about being enabled at the same time confined by embodiment, the question arises how the reporting instance being the centre of action could unfold a perspective from a position somewhere outside of the centre of action?

That is the conundrum needing to be solved.

This has been discussed earlier in “The Forgotten Transition” but in that case from the point of view of a stage in the anthropogenic development. The following approach will take a different perspective.

### ***Structural characteristics the observational position***

The position of an observer outside the field of action has a few characteristics.

In first instance the reporter seems not to collapse with the actor. Both experience a different position by this introducing, better still ‘installing’ in the experience a *space* divorced from the centre of action.

Secondly the observer-reporter is taking position in that space consequently outside the centre of action.

Thirdly not collapsing the one with the other, a suggestion of distance rises strikingly by Sartre coined “Cette distance nulle”. It expresses an experience of distance but not a factual occurrence. In fourth instance the relation between observer and actor has a particular structure: the observer-reporter reflects on the condition of the actor. It comes as considered from a bird’s eye – some call it a God’s eye perspective, others Archimedes’ position hence the title.

Cutting corners, all of the characteristics such as non-identity, the position outside, distance, the stance of consideration and the report or declaration are captured by one single concept: aboutness.

These are all structural features, as soon as language is the medium of expression always occurring.

There is also a semantic feature: the idea of objectivity i.e. being free of subjective payloads.

### ***The historical meaning***

Apart from the characteristics embedded in the genetic formation there is also a historical influenced meaningful dimension.<sup>57</sup>

Objectivity has not always been understood as the sense we are familiar with.<sup>58</sup> In the early days before there was even mentioning of objectivity a “scientific” narration was meant to depict nature as truthful as possible.<sup>59</sup> In the 14<sup>th</sup> century what was called ‘object’ referred to what appeared in front of the senses, a qualification which today would be considered subjective. Subject on the other hand referred to the

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<sup>57</sup> Wiktor Stoczkowski says it so well that I cannot help to quote that passage in the introduction of *Explaining Human Origins* (1994/2002) “This imagination is not a faculty that enables us to step outside the conceptual box in which we are confined; on the contrary it actually creates the box itself and it is inside its closed space that religions and literatures are moulded, as are politics, behaviours and theories. The sides of this conceptual box, while not eternal and unchanging can nevertheless remain fixed over long periods of time and often seem so transparent that we are not even aware of their existence.” (imagination refers to the historical meaning giving interpretation of the world; box refers to whole of beliefs and convictions)

<sup>58</sup> Daston, L. Galison, P. 2007. *Objectivity*. New York: Zone Books.

<sup>59</sup> Scientific has been bracketed because at that time there was not an understanding of science in the sense understood today.

essence of that what is, what exists. This approach was still accepted in the period Descartes composed the "Meditationes". Also important is the fact that these qualifications were not much in use, not with the importance characterizing the actual appreciation. The writings of Kant in the 18<sup>th</sup> century signified a turning point. Object(ive) so he meant, was the form determined by the schemes of the mind such as time, space and causality. Subject(ive) referred to the sensations accompanying perception.

Midst the 19<sup>th</sup> century the human factor became considered a weakness in the endeavour of realising knowledge. Moods and caprices had to be suppressed, better still replaced by mechanical means in which human interference was absent such as in photography. Daston and Galistel call this stage mechanical objectivity.

This brief illustration wants to draw the attention on a semantic fluctuation feeding an appreciation of detachment of human interferences caught by the term 'subjectivity' as an umbrella concept.

This is not the main pattern underlying a detached position but it certainly adds to the actual dominant appreciation of objectivity as a quality in the aim of describing the 'real' world.

### ***Aboutness as characteristic of the human condition***

The following excerpt is borrowed from a comment on an article composed by Thomas Wynn (2021). It briefly depicts the underlying development and dynamic on which the aforementioned semantic appreciation is becoming imposed.

### **What is aboutness actually?**

(...) aboutness refers to a stance following from a type of practice.

Considering the previous stage in the development in which a perspective such as aboutness did not even occur helps understanding.

Based on studies in ethology and in developmental psychology, non human i.e. not cultural developed - animals are directly engaged in the fluctuations of the conditions at hand. Two dogs fighting for a bone are dynamically and directly linked to one another. Neither of the dogs involved is able to consider "*the other one is having the bone I want*". There is only tense interconnectedness, fully dynamic. So far for the initial shared condition; a clarification which will facilitate the understanding of what aboutness consists of.

It certainly is not some mysterious so called mental ability. It is a particular perspective or rather approach which originated in a relation to an implement onto which adaptations got applied. If the denotation "perspective" might come as to volatile too, it comes down to the selection, organization or ordering of input in function of an act to be executed. Being hungry for instance will organize the visual input and motor grasping onto anything which could serve as food. For some groups of hominin having hands to grasp there is already a condition of readiness in place. Mobilizing the hands in order to get grip on some food in a direct way or on an implement in order to reach food such as an ant dipping tool or a hammer to break the bolster of nuts is not a novelty. Meaning that what in the end will be called "aboutness" does not start from thin air, there are elements already in place. The experience of aboutness is but a stage – maybe the final stage - in a larger development.

Cutting corners in evolution there have been hominin which by walking upright became in the fortunate condition that this skilful use of hands got drawn into further exploration and perfection. It needs to be stressed that they did not have to do so (teleological) but the conditions were such that they in a sense got drawn into it.

In the design imperatives of Acheulian bifaces Gowlett (2006) draws the attention to “forward extension” which is of particular relevance for understanding the coming into being of the stance of aboutness. It says “(...) the provision of leverage through forward extension and the weighting of the distribution so that the butt-mass balances out the extension (...)”

This holds two elements “through forward extension” and “the weighting of...”

The first has to be understood in a particular way because being embedded in Western thinking characterized by – amongst others – an inclination into a teleological perspective, the risk is real that it is taken “*because* the actor had to check the adaptations applied *he had to* extend in the forward direction”. This implies a prior intention, a planning in order to. That is imposing human characteristics on a hominin which is not human yet.

Taking the condition mentioned earlier in which “aboutness” was completely absent as stepping stone the effect of an applied modification provokes the gesture “to forward extend” in order to control the effect – a situation which is not all that extraordinary. A chimp producing an ant dipping tool does not randomly remove twigs and leaves neither. He too checks the result of his action. The difference with the chimp is that for the latter it seems a practice restricted to that particular situation while for the hominin it seemed to have resulted in a change of perspective, quite gradually and probably spread over an enormous window of time. That is not a just so idea sprouting from imagination; the produced artefacts provide indications into that direction. Take the Acheul type of tool mentioned by Gowlett; it is impossible to accept the occurrence spread over time and space of a standardized type of implement such as the Acheul in the absence of the perspective reaching into some space in front of. It is what Heidegger refers to when mentioning “*da stellen*” (putting over there) and “*die Gegenstände*” (that what is in front of the observer). In short, that type of action repeated over many generations probably provoked a shift in perspective. Observe that in this approach the stress is not on the visual component which as torchlight would explore the scene in order to initiate the motor component into action. It is rather the action drawing the visual attention onto certain characteristics.<sup>60</sup> It is not only shifting the perspective i.e. the position in relation to the implement worked on taken; it is also selecting characteristics relevant for the handling and forging these into a pattern (which eventually will get coined objectification). The core of this approach is that through repeated practice in the long run a reorganisation of the perspective grew, in itself nothing mysterious but a reorganization of the input data.

“The weighting of” is the second element in the quote. Here a similar approach can be applied. “Weighting” should not be understood as an evaluation from out an intellectual point of view, not to mention a “mental” perspective but should be taken in an intuitive sense. Think of a labourer involved in

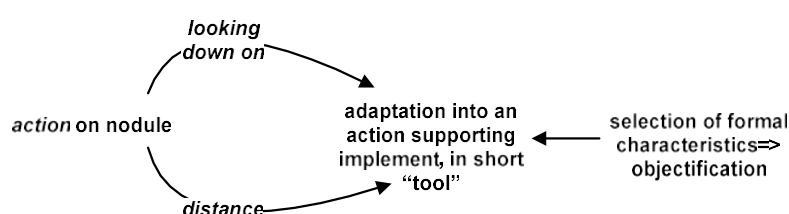
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<sup>60</sup> Michotte, A. 1963. *The Perception of Causality*. Basic Books (p.25). Also Killeen, P.L. 2010. Resituating cognition. *Comparative cognition and behaviour reviews*. Further Barsalou, L. 2005. Continuity of the conceptual system across species. *Trends in Cognitive Science*.



demolition looking for a new sledgehammer. He will most probably not apply mechanical reasoning but knowledge through manipulation.<sup>61</sup> Again there is nothing “mental” – whatever that might mean – involved. The evaluation is embedded in motor manipulations, stronger still it is a motor mode evaluation. The labourer does not have to consider, to think discursive in order to decide; he experiences the rightness of wrongness in a direct manner.

Joining both elements into one gesture results in a shift of the perspective onto some point of attention in front of the actor evaluating the result through motor practice. Because the evaluation metaphorical sense is a view from above (considering...) this could be coined the objectification *arc*. Observe that ‘in front of’ and ‘a view from above’ introduce a spatial dimension in the understanding while actually nothing spatial changed but the perspective provoking a suggestion of spatiality.



In this **objectification arc** a motor and perceptual selection gradually took the form of a filter, developed into a stable motor and perceptive configuration. Imagine a bricklayer “seeing” the right amount of mason mortar.

In contemporary language it could be said that in the course of this approach an “object” (by analogy the right amount of mortar) got installed, an object at the same time in a concrete form (the tool at hand or the mortar in the illustration) and as a set of formal characteristics (mass, texture, volume, weight, handedness...). I have called this objectification but most importantly consider that this is not a natural thing and there is neither a mental capacity involved. It is merely a motor and perceptive configuration.<sup>62</sup> The previous lines should clarify the character of aboutness.

### ***Back to the problem***

All this allows answering the problem mentioned in the introductory pages. How can one have the experience looking at the world from a position outside the centre of action while on the basis of embodiment that is impossible? How is this discordant situation at all possible?

The point is that the understanding of a relation characterized by an experience of taking distance is brought forth by a perspective i.e. a particular organisation of input. Peering through a faceted diamond

<sup>61</sup> Qualifications introduced by Goldenberg, mentioned by Wynn.

<sup>62</sup> Susan Carey (2009) refers to input analyzers. This is not different to what I have called “selective filters”. But whatever she means the way of formulation “input analyzers” provokes the idea that somewhere there exists *something* which rightfully might be called this way. It is somewhat similar to the idea of a consciousness by this provoking the search of the location of it. (Carey, S. 2009. *The Origin of Concepts*. Oxford University Press)

shows a multitude of scenes while there is only one single actually present. The depiction is getting reorganized. Something similar happens in the situation at stake in this discussion. A particular type of action, more specifically mediated manipulation, organizes the perception in a particular way. It evokes a feeling of detachment, here the actor with in front (con-fronting) the centre of the focus in a detached way. The detachment follows from the judging look. It is neither better nor worse than the perspective of non human animals. It is only a different organization from which follow particular consequences in respect to further action.

As already mentioned, Sartre coins this feeling strikingly “cette distance nulle”, the distance which actually isn’t. There is no factual distance.

The biological organism did not change, the eyes allowing sight did not change. Changed was the structure underlying experience bringing forth a different way of appreciating what is going on. It bears more the character of a stance, a way of structuring and not a capacity which would reside somewhere in the organism in the guise of an intransitive instance. Western culture is inclined to infer a function from an implement as in the knife allowing cutting. But the motor dimension being primordial, the object only receives a function from out specific act. A knife not engaged in the act of slicing has no function at all. It is some metal entity lying around.

In the same sense the human only holds the idea of taking the position of an observer on the sideline from a particular act described earlier. The act installs a particular understanding and appreciation. By this the apparent division of independent observer and scene observed is a stance.

On top of that sits the semantic conviction with historical provenance that the human better takes distance from subjective biases.

Concluding, there is the infrastructure allowing bringing forth and processing input into a certain meaningful framework and there is the experience following from it. Both are of a different order altogether as such not allowing rightfully to be presented as discordant. It is like the taste experienced when biting into a fruit. The one follows from the other but both are of very different order.

### ***Postscript***

I feel urged to add an extra brief part because the view of being at a distance often provokes the idea of a complementary condition of non-division or an authentic oneness in which that alienating distance would not occur. The latter condition often seems to be dwelling in a sphere of a no longer reachable lost paradise.

Again I will fall back on already existing bundle with the title “On the Human Condition”.

### *A condition considered to be a form of alienation*

This experience of distance is often referred to as a radical gap, as a fundamental mode of alienation. Lacan for instance refers to it as the price paid for entering the symbolic order. It leads to an experience of deficiency, a lack, a void. It is about a lack of immediate being, an unconditional given reality (la manqué de l’être, le manque à l’être). There no single signifier able to solve that problem, on the contrary the chain of signifiers installs it again and again. Because language destroys the immediate she at the same time

calls a longing to restore the condition which has been lost. It is a never ending process because as soon as language is used the void is getting introduced anew.<sup>63</sup>

With this appears the myth of a lost innocence, the image of the lamb, the ritual gesture restoring innocence after the sin has been committed. Innocence refers to the Latin “in-noscere” meaning not harming. In Lacan’s representation the human is harmed by the introduction of language.

It comes to me as an extreme misconception.

Because, it is precisely that condition which opens the characterizing abilities. Without it would not even be possible to refer to a particular species recognized as “the human”. There would be a species amongst other species, maybe a technical skilled hominid by this different from the others. But there would not be a radical rupture. It only would represent a more sophisticated mode of animal existence.

Negotiating the environment is the mission of all living creatures.

The following sentences have been italicized because of their importance.

*Taking a distance is part of the way the human fulfils the mission of negotiating the Umwelt. It is anything but alienation. It exactly instantiates what it is to be human. It expresses the human condition.*<sup>64</sup>

The idea of alienation is provoked by the concept of dualism. It relates to the two world model present in the writings of Plato. On the one hand there is the world of the true ideas and on the other perceptions in his opinion offering nothing else but a scene of shadows. The problem is not particularly the presentation of two different contents but the fact itself of the introduction of two dimensions, in other words dualism. This follows from the question into the essence which in turn follows from the introduction of the invariable or “that what is” (hoti esti).<sup>65</sup> The said introduction embodies a fundamental turning point in the history of Western thought, a subject reaching far beyond this discussion.<sup>66</sup> Some clarification might be useful for further understanding. According to Lloyd around the 5<sup>th</sup> to 4<sup>th</sup> century BCE there was need for an independent criterion useful in settling discussions. Nature in the sense of “that what is” got chosen.<sup>67</sup> Morton in turn attributes the origin of the invariable to the production of surplus in agriculture.<sup>68</sup> But whatever the difference in explanation, both focus on the appearance of the invariable in that period. The introduction of the very idea would in time beg the question into the nature of it. As a matter of fact the whole of the history which would follow is actually nothing else than the mission to find out the nature of

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<sup>63</sup> From “L’angoisse, le seminaire livre X.

<sup>64</sup> For a similar point of view: Heidegger in “Einführung in die Metaphysik” (1953). He stresses that there is no difference between being and appearing, both collapse.

<sup>65</sup> The sequence the other way around might be easier to understand. The introduction of the invariable is the stepping Stone, followed by the question into the nature or the essence of it. In the endeavour to answer Plato points to a true and a false version (allegory of the cave) by this not only introducing that there is something like a “true” version, but of relevance here the structure of duality.

<sup>66</sup> For an elaboration on this subject reference made to other contributions as “Mind what are we talking about, deconstruction of Suddendorf’s rise of the metamind followed by a history based reconstruction of the concept of the mind”; and “The remarkable character of Western thought”; further “Script, a simple introduction into anthropogenesis” chapter 19 in “The 5<sup>th</sup> Ape”.

<sup>67</sup> Cambridge professor of history of science; reference here to the publication dating from 1991: Methods and problems in Greek science; in particular chapter 19.

<sup>68</sup> Timothy Morton is a professor at the University of Rice in Houston; originally researching romanticism but shifted focus to ecology.

things.<sup>69</sup> In that sense dualism as a heritage from the Greeks became one of the most important patterns organizing and structuring Western thinking. The discrepancy between appearance and truth, between being and appearing, between language and experience are but symptoms of that structuring. One should profoundly be aware of the fact that this is a pattern and a version with historical background. It is a way of ordering and understanding things. Neglecting this fact by accepting the structure mentioned for a natural reality produces its own problems alas still troubling the actual thinking.

There is yet another perspective possible on the idea of alienation. The experience of taking a distance provokes a semantic tension. Similar as “milk” promotes thinking about “cow”, “black” to “white” and not to round or square, the experience of taking a distance provokes the suggestion of a condition in which this is not the case, a natural condition in which distance would be absent, earlier called the myth of the lost innocence. This is however an illusion because there is no real distance taking involved only a particular perspective, a way of looking upon the world. It is precisely that way instantiating the human identity, the human condition. There is no such thing as the natural condition only the animal way but once encultured into the human mode there is no way back, similar to trying to undo the boiled condition of an egg.

#### *Short note on corresponding interests*

On closer inspection the relation to the Kantian approach is more than but a source of inspiration, more than a basic principle which taken to its full consequence seems irrefutable.

Kant offers an insight on how the human builds an understanding of the world. Observe however that in this more than one dimension is involved. On the one hand he proposes that the input for which the human body is sensitive is getting organized by the structures of the mind. As mentioned, I prefer speaking of the characteristics of the body, but in the end the core of the idea is the same. The dynamic comes down to the perceived scene being organized by patterns projected. On the other hand there is the character of the said structures. He lists space and time, quantity, quality, relation and modality. While I am fully convinced by the idea of the body, from Kant’s point of view ‘mind’ defining the organization of the phenomenon, I am far less by the structures offered. They seem al too post-Aristotelian, actually Galilean and as such flavoured by the zeitgeist characterizing a historical period. It is clear that Kant admired Newton himself following the footsteps of Galileo. Of course the latter did not introduce space and time but his experimental and mathematical approach granted these structures a geometrical and quantified guise quite different to the Aristotelian perspective stressing potential and dynamic.

In short Kant touches a universal characteristic, the organization of input and a local historical dimension i.e. the Western approach since Galileo.

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<sup>69</sup> Recall Whitehead stating that the history of Western culture is but a footnote to Plato (offering one possible answer). Aristotle prefers another version but his texts only came available to the West after 1085 marking the fall of Toledo. In respect to dimension of actuality, the physicist a Noble Prize winner Steven Weinberg in a recent publication (2016) explicitly underscores this goal.

Of importance for this remark is the universal dimension offering is an insight on how the human species understands the world. In his view the cognizing mind plays the defining role. Successors made different choices. Schopenhauer for instance stressed the impact of the will while Cassirer thought of language as a system of symbols underlying all experience.

The point to be made is that whatever the inquisitiveness is driving the trajectory of my research, the theme at the core is similar: how does the human realizes an understanding of the world and further what is the content of that understanding? This at the same time touches another theme quite akin: what makes the human unique tacitly pointing in the direction of that type of understanding.

In short, we seem all taken by the same type of question and by this fishing in the same pond.

I am however not endorsing the structures of the mind as what is “mind” else than a mysterious concept covering effects not yet understood. In that sense this comes to me as clever waving of hands in thin air. Following the method made clear earlier I ended up with the model in which the configuration consisting of objectification, the object taking a central position in the act of mediated manipulation as mode of negotiating the burdens of the environment. It goes well with Darwin’s approach pointing in the direction of the best adaptation which only can prove itself as behaviour in the public domain.



# On aboutness and declaration

## On aboutness

“However, such mechanical reasoning (*referring to thinking involved by modern artisans using tools*) includes ontological categories defined via prototypes and essential qualities (Carey, 2009), expectations concerning how objects interact (force, deformation, etc.), and meta-cognition about tools themselves.<sup>70</sup> All this knowledge constitutes a “folk physics” that guides problem solving. *It consists of declarative knowledge about how the world works*, rather than procedural engagement with the world.

*Did early hominins rely on equivalent, but non-linguistic, systems of declarative knowledge?*”  
(stress added)<sup>71</sup>

Instead of at once getting drawn into pondering a possible answer, the attention should go to the idea of a “non linguistic systems of declarative knowledge”. The author refers to folk psychology raised by modern artisans in which case the idea of declarative knowledge is justifiable but he also relates it to non linguistic systems, by this neglecting the question if in the absence of language declarative knowledge would be possible at all.

What does “declarative” stand for?

From the point of view of linguistics it refers to making a statement about something by this providing some information. Starting perusing Carey’s book mentioned in the quote I ended up with something very different, a contribution by Ullman (2001:718)<sup>72</sup> explaining that “declarative memory is subserved by regions of the medial temporal lobe (...)”

It becomes clear that the qualification “declarative” has more than one meaning. It does not necessarily refer to the linguistic frame of reference but could also be related to the study of memory (contents). In that sense it refers to meaning – a meaningful content - acquired in a direct way, that is outside of the realm of language. Some event is meaningful to the perceptive organism driven by its primary motivation provoking response but it does not declare i.e. does not add information about the event experienced.<sup>73</sup>

“Declarative” used in the quote is however related to mechanical reasoning which is about making declarations or adding information.

This shows that there is need for supplementary clarification on the subject of declaration in particular in relation to aboutness.

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<sup>70</sup> Meta-cognition refers to knowing about one’s own thoughts, knowledge about one’s thinking.

<sup>71</sup> This contribution got fired up as a comment on Wynn, T. 2021. Ergonomic clusters and displaced affordances in early lithic technology. *Adaptive Behavior*, Vol. 29(2)181-195/p. 187)

<sup>72</sup> Ullman, T. M. 2001. A neurocognitive perspective on language: the declarative/procedural model. *Nature Reviews/ Neuroscience*. Volume 2, October 2001:717-726.

<sup>73</sup> For an elaboration on the different modes: Gilbert, J.F.R. *On meaning*, chapter 9, Six levels of meaning.

As I see it declaration implies aboutness but the latter does not imply declaration necessarily.

In other words “aboutness” in itself is not declarative, moreover has nothing to do with declaration. But how is the declarative quality realized after all?

### **What is aboutness actually?**

Reification easily suggests some instance. But there is nothing existing somewhere which rightfully could be called aboutness. It actually refers to a stance following from a type of practice.

Considering the previous stage in which a perspective such as aboutness did not even occur helps understanding.

Based on studies in ethology and in developmental psychology, non human i.e. not cultural developed - animals are directly engaged in the fluctuations of the conditions at hand. Two dogs fighting for a bone are dynamically and directly linked to one another. Neither of the dogs involved is able to consider “*the other one is having the bone I want*”. There is only tense interconnectedness, fully dynamic.

Aboutness is not some mysterious so called “mental” ability. It is a particular perspective or rather approach which originated in a relation to an implement onto which adaptations got applied. If the denotation “perspective” might come as to volatile too, it comes down to the selection, organization or ordering of input in function of an act to be executed. Being hungry for instance will organize the visual input and motor grasping onto anything which could serve as food. For some groups of hominin having hands to grasp there is already a condition of readiness in place. Mobilizing the hands in order to get grip on some food in a direct way or on an implement in order to reach food such as an ant dipping tool or a hammer to break the bolster of nuts is not new at all. Meaning that “aboutness” does not start from thin air, there are elements already in place.

Cutting corners in evolution there have been hominin which by walking upright became in the fortunate condition that this skilful use of hands got drawn into further exploration and perfection. It needs to be stressed that they did not have to do that (teleological) but the conditions were such that they in a sense as said got drawn into it.

Wynn offers a quite interesting suggestion by referring to the design imperatives listed by Gowlett (2006).<sup>74</sup> In the abstract the latter however states that “exploring design targets bearing in modern mind that we have a limited idea of (...) ancient mind”. This quote is not non-committal as it implies the silent introduction not only of an instance “mind” but more particular of the capacity of a source generating – in this case – planning and intention. A bold statement as the whole idea of a mind is a historic invention. It is an umbrella concept encompassing realizations and experienced effects not (well) understood. Making reference to an ancient or modern mind is somewhat surprising in an article claiming to put the Cartesian mind aside altogether.<sup>75</sup>

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<sup>74</sup> However I have been approaching this subject in a similar way since the publication of *The Forgotten Transition* in 2018, this reference is new to me and welcomed.

<sup>75</sup> Thomas Wynn cannot be blamed for that but the critical reader has to be vigilant. The concept of “mind” is ingrained in the Western frame of reference and even when explicitly bracketed it always pops up in an unexpected guise.



Apart from this critical remark the second of his design imperatives called “forward extension” is of particular importance for understanding the coming into being of the stance of aboutness. It says “(...) the provision of leverage through forward extension and the weighting of the distribution so that the butt-mass balances out the extension (...)”

This holds two elements “through forward extension” and “the weighting of...”

The first has to be understood in a particular way because being embedded in Western thinking characterized by – amongst others – an inclination into a teleological perspective, the risk is real that it is taken “*because the actor had to check the adaptations applied he had to extend in the forward direction*”. This implies a prior intention, a planning in order to. That comes down to imposing human characteristics on a hominin which is not human yet.

Taking the condition in which “aboutness” was completely absent as stepping stone the effect of an applied modification provokes the gesture “to forward extend” in order to control the effect – a situation which is not all that extraordinary. A chimp producing an ant dipping tool does not ad random remove twigs and leafs neither. He too checks the result of his action. The difference with the chimp is that for the latter it seems a practice restricted to that particular situation while for the hominin it seemed to have resulted in a change of perspective, quite gradually and probably spread over an enormous window of time. That is not a just so idea sprouting from imagination; the produced artefacts provide indications into that direction. Take the Acheul type of tool; it is impossible to accept the occurrence spread over time and space of a standardized type of implement such as the Acheul in the absence of the perspective reaching into some space in front of. It is what Heidegger refers to when mentioning “*da stellen*” (putting over there) and “*die Gegenstände*” (that what is in front of the observer).

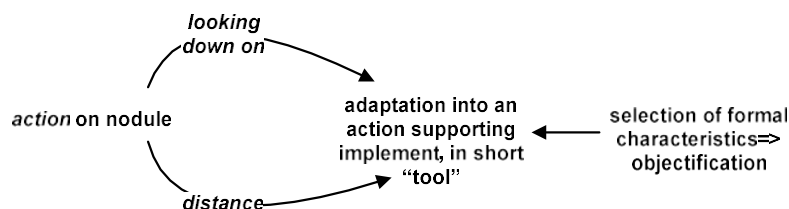
In short, it is the action applied over many generations probably, which provoked the shift in perspective. Observe that in this approach the stress is not on the visual component which as torchlight explores the scene consecutively driving the motor component into action. It is rather the action drawing the visual attention onto certain characteristics.<sup>76</sup> It is not only shifting the perspective i.e. the position in relation to the implement worked on taken; it is also selecting characteristics relevant for the handling and forging these into a pattern (eventually coined objectification). The core of this approach is that through repeated practice in the long run grew a reorganisation of the perspective, nothing mysterious but a reorganization of the input data.

“The weighting of” is the second element in the quote. Here a similar approach can be applied. “Weighting” should not get understood as an evaluation from out an intellectual perspective, not to mention a “mental” perspective, but should be taken in an intuitive sense. Take a labourer involved in demolition looking for a new hammer. He will most probably not apply mechanical reasoning but knowledge through manipulation (Goldenberg, mentioned by Wynn). Again there is nothing “mental” involved. The evaluation is embedded in motor manipulations, stronger still it is a motor mode evaluation. The labourer does not have to consider, to think and to decide, he experiences the rightness of wrongness in a direct manner.

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<sup>76</sup> Michotte, A. 1963. *The Perception of Causality*. Basic Books (p.25)

Joining both elements into one gesture results in a shift of the perspective onto some point of attention in front of the actor evaluating the result through motor practice. Because the evaluation metaphorical sense is a view from above (considering...) this could be coined the objectification *arc*.



In this **objectification arc** the merging of the motor and perceptual selection gradually took the form of a filter, developed into a stable motor and perceptive configuration. Imagine a bricklayer “seeing” the right amount of mason mortar.

In contemporary language it could be said that in the course of this approach an “object” (the right amount of mortar) got installed, an object at the same time in a concrete form (the tool at hand or the mortar in the illustration) and as a set of formal characteristics (mass, texture, volume, weight, handedness...). I have called this process and its result objectification, but most importantly consider that this is not a natural thing and there is neither a mental capacity involved. It is merely a motor and perceptual configuration.<sup>77</sup>

This should clarify the character of aboutness.

At this point a question and an observation arise.

The question would this condition be sufficient to characterize the human and if not how could this mode which actually is absent in other animals be called? The observation is that so far there is no sign of declaration in the sense of providing information on the object of aboutness yet. As mentioned it is merely a motor and perceptual configuration.

What would complete the condition mentioned in the previous lines, by this providing a transformation into a mode sufficient to deserve to be called typical human?

I will not be neglecting the fact that there is abundant literature on the subject of the uniqueness of the human, but even a short evaluation on the different options would lead to far off this thread.<sup>78</sup>

I will limit myself in this text focussing to what I think is the difference making the difference: displacement in space and time or a self initiated extended form of imagination.<sup>79</sup>

<sup>77</sup> Susan Carey (2009) refers to input analyzers. This is not different to what I have called “selective filters”. But whatever she means the way of formulation “input analyzers” provokes the idea that somewhere there exists *something* which rightfully might be called this way. It is somewhat similar to the idea of a consciousness by this provoking the search of the location of it. (Carey, S. 2009. *The Origin of Concepts*. Oxford University Press)

<sup>78</sup> For the interested there is a good overview on this subject by Stoczkowski, W. 2002. *Explaining Human Origins*. Cambridge.

The extended skilfulness of the hominin mentioned earlier does not provoke that quality. In that sense the level of development might be called that of a **technical skilful hominin** (maybe even ape) in contrast to the level of development of other animals but not a human mode yet. It lacks self initiated extended imagination. It lacks the ability to compose a narrative by this providing declarative information on the object being in the focus of aboutness.

That is indeed referring to what is falling short in order to deserve to be called human: the ability to provide information on the object in the focus of the aboutness, in other words to provide declarative information.

The question quite naturally arises: what is the nature of that type of information and having made that clear: how can it be brought forth? This will be discussed later but let us first explore the trajectory Wynn unfolds.

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<sup>79</sup> At this point I am in good company with Bickerton.



## On declaration

Wynn observes that manipulation knowledge relies directly on affordances while (...) declarative representational components of folk theories could not arise without language (reference to Davidson & Noble, 1989; Wageman, 2002). However, so he says, from a less rigid stance one can use the idea of affordance to trace how components of mechanical reasoning (*requiring conscious attention, my addition*) could have emerged out of early stone knapping. (p.188)

This on the one hand deserves applauding while on the other it calls for amazement. Applause because he opts for an exploration on a low level, which is actually the trajectory I would prefer myself.<sup>80</sup> But on the other hand he states that mechanical reasoning could not be performed without language but he still wants to adventure how far he could come with affordances i.e. without language. It comes to me like stating that a car needs wheels to move around but let us see how far we can get without wheels. I have however to admit that the degree of amazement is raised on the basis of insights gained from previous research i.e. that declarative knowledge is linguistic in nature.<sup>81</sup> (One cannot omit the wheels)

In order not to confuse different types, declarative knowledge adds information to the object in the focus of aboutness. Non human animals not possessing language also have knowledge about a particular prey or weather conditions or whatever occurs being relevant. This type of knowledge is however based on non reflective experience, an experience undergone in contrast to an experience as object of consideration i.e. aboutness.

Recall the goal, using the idea of affordance to trace how components of mechanical reasoning could have emerged out of early stone knapping (p.188)

What does this cover?

Mechanical reasoning requires focussed attention implying *the intention* to focus onto something. The latter part requires autonomy, aboutness and consciousness i.e. make the decision oneself to focus onto a certain item, an act requiring being consciousness. Reasoning itself in turn is about the (re-)ordering of cognitive contents which I prefer to call displacements in space and time. This preference is justified by the fact it directly describes what it is going on.

Leaving aside that thinking of which reasoning is a particular mode, is an anthropomorphic concept – posing a problem in its own right, reasoning requires autonomy i.e. the intention to organize meaningful contents.<sup>82</sup> In so far animals may be said to be able to think, then their thinking is initiated

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<sup>80</sup> In other contributions I have stressed the importance of action in the in principle public scene.

<sup>81</sup> Previous research published in my doctoral thesis on the cognitive dimension of consciousness.

<sup>82</sup> On anthropomorphic concept, the following is quite interesting also in this context. According to Nisbett and Wilson (1977) and Terrace and Metcalf (2005) the human not having a clear insight on causes inclines to attribute the cause to a 5th sense, a mysterious instance (like the mind, my comment). The question then is what might thinking really consist of?

heteronomously. In other words when an animal is said to be thinking then the thinking is triggered by some condition, food perceived or a condition of hunger.

The conclusion is clear: bringing forth mechanical reasoning implying that autonomous thinking is involved is no simple task. It requires a particular setup.

The question is if affordances are offering sufficient potential in order to realize (a degree of) that endeavour. In opting for that path the author faces a demanding task.

The text offered by Wynn explains quite clearly the different flavours of affordance. There are no comments here apart of on one detail: the felt reluctance on the subject of displaced affordances. Heidegger offers the case of the pen being ready to hand. The contraption invites to write, seduces into writing. The complementary dynamic is simple, actually ready at hand. Actually corresponding to what Gibson himself expressed.

Buying into suggestions of nested and second-order affordances makes the red light going off, some mental acrobatics is coming in sight. But apart of that detail, the explanation does not require further comment. So let's focus on the conclusion, actually two in number.

The first stresses that mental templates are not to be presumed, the material engagement suffices. Totally agree with that.

The second conclusion holds more debatable statements. Cutting corners, as I understand it the junction of practice and affordances brings forth some ratcheted effect. Existing abilities hook into affordances generating improvement of the said abilities etc. in an up-going spiral. However quite puzzling: chimps also use stone tools and the ratcheted effect seems not to be happening in their trajectory of development. This does of course not say that the author has it wrong. It only points out a so far unexplained not only remarkable but also decisive difference.

The real problem however appears in the following quote “(...)over-determination of handaxe form indicates that hominins not only used handaxes, they thought about handaxes”.

Several remarks come to mind.

In first instance “over-determination” has been mentioned quite abruptly. Also known as Wallace's problem it deserves more attention because it actually puts the finger right on the spot: humans seem to develop more abilities than needed by the changing circumstances.<sup>83</sup> In natural selection an adaptation said to be successful satisfies particular circumstances and that is it. But over-determination suggests a dynamic following a logic (or system) separate from natural evolution.

With this we are actually entering the field which is of importance in the goal set (recall: from affordances into mechanical reasoning the latter offering more opportunities than strictly necessary).

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<sup>83</sup> This has been discussed in *The supplement to the Forgotten Transition*, chapter 8.

Secondly it is not a problem to accept that a continued practice implying repeated association into a cluster of ergonomic features over long time consolidates into a basic tool form. It in a way is on par with the idea of a selection of formal characteristics reorganizing into a particular perceptive cognitive template (objectification) or with Carey's input analyzers. But the conclusion that these hominin thought about handaxes on the basis of what had been offered is of quite a different order.

The mode of thinking by non human animals as being heteronomous has already been pointed out. It becomes triggered by the circumstances of the moment, maybe internal as in being hungry or external fired up by the perception of potential mate. Humans on the other hand are able to self initiate thinking i.e. manipulating and organizing meaningful contents. That is exactly the type of thinking when engaged in mechanical reasoning. Humans confronted with a task he are able to choose engaging in thinking about a strategy to follow, able to suggest more than one solution, even to decide not to think at all about the problem. That is a clear case of over-determination, there is more on offer than strictly needed precisely the possibility baffling Wallace.

The text mentions that the over-determination provides an indication on the occurrence of being able to think about. That observation can not be refuted. But the whole idea was to find out in how far affordances could actually realize this heroic act characterized by over-determination. The text however fails to answer. The goal set is not met.

This could be the end of the critical reading.

It is however difficult to resist adding a few lines on an alternative view.

In first instance the technical skilled hominin has been mentioned. It refers to the development of taking a stance or perspective of distance accompanying adaptations applied and the result being weighted. There is no language involved. It is a change in the organizing of input from pure Gestalt-principles transformed under the pressure of perception modes and motor approach. Paraphrasing Richard Leaky, this hominin does things differently.

This first level of development could have been the end. But it turned out to a) provide the necessary condition for a following stage of development while b) the occurrence of that stage was contingent i.e. it happened but it did not need to. That second stage consisted of the object as the product of the said adaptations starting to function as a second order stimulus and by this provoking a displacement in space and time in the experience. Long story short: precisely this allowed adding information to the object in the focus of aboutness. That type of information is declarative in nature; it adds a declaration to the object in focus.

The thinking about mentioned in the text unfolds on the first level. It reorients and reorganizes the input but it does not add information - declarative in nature - to the object in focus of the aboutness arc. That would require the second evolutionary innovation; the ability to manipulate stimuli of second order by this handling meaningful contents.

The alternative unfolded is based on two premises.

1. The observation that the tools unearthed and attributed to the species which in the end would become called human could not have been brought forth without the combination of a specific organization of

input (objectification) and the perspective of taking a distance (aboutness). This does not focus on causes, only presupposes what might be needed for the realization of that particular achievement.

2. It tries to restrict to describing the operations needed to realize the said achievement only falling back on the elements ready at hand and the abilities within reach of the hominin in question.

## **Two topics**

In the first place it should be stressed that the reorganization of input into patterns accommodating the developed mode of dealing with action supporting implements and accompanied by a distance taking shift in the perception is the linchpin. This is the turning point. Without it the organism thrives purely on the dynamics geared up by the primary motivations and the Gestalt principles organizing the input.

Changing ecological conditions probably were the pacesetter for a diverse group of hominin to develop particular abilities or rather skills in the endeavour to survive under the burdens imposed by the environment. This resulted in a hominin technically skilled far beyond other species.

The later phase could not have originated without the first however that did not have to happen, in other words the appearance was contingent. But precisely this finding extended in the experience the factual existence with an imaginative realm by this installing the Umwelt typical for the human.



# Archimedes and the palace of mirrors

*However this contribution discusses the theme announced, it also offers an insight in the basic frame of reference underlying all other publications.*

## Introduction

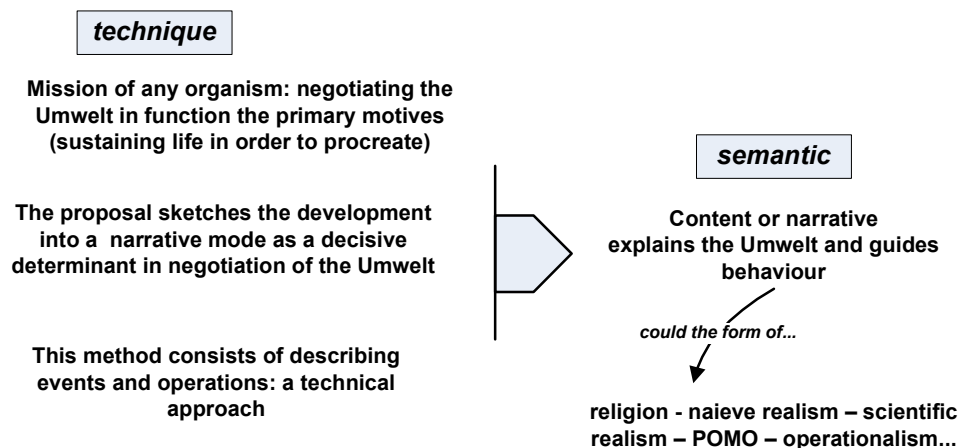
“Storytelling, setting the human apart”, a previous contribution, offered a more formal or sober approach of this subject. It opened an insight in the nature and the origin of narratives, a view on the exclusive and irreversible character of it. In that sense it is more informative. The following text is different in that it will build up an answer to a point of criticism which has to be taken serious.

## The problem

Previous research and relentless study of publications from different disciplines relevant for the subject allowed puzzling together a frame of reference and scenario on the realization of the human condition. It consists of two dimensions, the second following from the first.

1. how did a hominin evolve into a storytelling mode in the general context of negotiating the world (technical achievement)
2. the content or semantics of the story produced in function of explanation and of guide to negotiate the Umwelt.

Schematic:



On closer inspection this pattern shows a particular twist.

On the one hand it offers the impression of a report: x, y and z happened providing an exclusive mode, that of narration. The world is getting approached through a narrative explaining what is going on and at the same time offers instructions on how to deal with it. Think of religion or even science: both offer an

explaining description from which guidelines how to act can be deduced. Of science is often said that it is neutral and as such does not hold guidelines. But would it not be ridiculous not to infer guidelines for practical life if science at the same time pretends to offer a version corresponding to reality?

The twist however is that this model pretends to offer an objective report while following the parcours sketched out by the scheme, it can not be else than a version - in the same sense as religion also is a version.

That is actually the critique received: is this not a version as any other version suggested? And most importantly, why would this approach be better than the other versions?

### *Building up an answer*

#### *The first question*

On this point there is no rebutting answer as what got presented is indeed a narrative, moreover it can not be anything else than a narrative given form by a human being as the centre of narration. From this follows that the position of independent observer on the sideline has to be an illusion in a sense misleading as it pretends to be neutral and thus objective while it offers a narration from a subjective point of view.

So, without hesitation there is no other possibility than to agree with the critic expressed.

Some remarks are in order.

The apparent position cannot take another form than that of a report provided by an observer because it is a particular application of the object focussing arc installing and expressing exactly that form.

This dynamic stance has been explained at large in other contributions.<sup>84</sup> In short the application of adaptations to an implement requires the holding in front of and so on a distance. (remember Gowlett's forward extension in the elements of design form). The appreciation of the quality or effectiveness of the adaptations made comes on top of that. It requires a motor based consideration – in metaphorical sense – a view from above, hence the reference of an arc. In short the position of observation cannot be avoided, as the practice of language is an emanation of the act of mediated manipulation, it is a particular application of it.

Secondly the critic does not merely express a question. He tacitly suggests disapproval, which surprises because it is precisely that type of application that constitutes the human condition i.e. negotiating the Umwelt through an understanding offered by narratives. The eventual success or disadvantage of the narrative offered is not of importance in this discussion. Here only the fact that a narrative projects a frame of reference guiding behaviour counts.

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<sup>84</sup> For an elaboration of "the object focussing arc" reference made to "On the human condition", first essay.

The critic most probably got inspired by the Greek philosophers of nature fostering the concept of the invariable of which the “true” nature became questioned. That background as the flipside of a coin feeds the judgement of objectivity. Without the idea of the possible existence of something “true” the counterpart of something being untrue - in other words illusory - might not even be possible.

Otherwise worded, taking the decisive determination at the same time confinement of embodiment into account, the world we humans experience is a construct from which follows that the idea of an objective reality which moreover can be known is nothing else than a narrative. It is the only world humans have at their disposal.

Concluding that the representation of an independent reporter as presented in the scheme is illusory, but an unavoidable dimension of acquired skill of mediated manipulation of which narration is a derivative mode offering until then not existing opportunities.

That should be the answer onto the first observation.

### **The second question on a never ending spiral of versions**

On closer inspection there is a lot of confusion in all this.

The criticism was that the scheme offered in the introduction was a version. But considered closely the answer formulated in the previous paragraph is also a version and the actual consideration that this is the case is a version too. As it turns out in the end there is but an endless stream of versions.

It is as if the reporting observer finds himself in a palace of mirrors, wherever he looks getting confronted with reflections from which he is unable to escape.

### **Higher order thoughts**

This state of affairs brings an article composed by Rosenthal to mind in which he discusses higher order thoughts.<sup>85</sup> Example: “I think” (1<sup>st</sup> order); “I think *that I think*” (2<sup>nd</sup> order); “I think *that I think that I think*” (3<sup>rd</sup> order) etc. What one gets is the impression of an – at least theoretically - endless recursion. In practice people lose track with the 5<sup>th</sup> order.<sup>86</sup> But that is not the point.

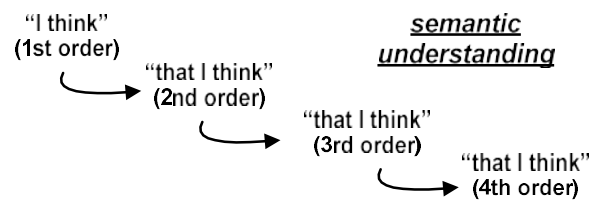
There is suggestive misleading in the series of the so called higher order thoughts.

In order to provide a clarification a distinction has to be made between a semantic and the technical point of view. The proposed series suggest the climbing of a ladder by each step upwards looking down onto an increasing number of steps below. This is the way we understand it, the semantic of it. We have the impression that we look down on an increasing number of stages. While on the level of execution, from a technical perspective there is the act of looking back/down on one object turn after turn but each turn with a different content.

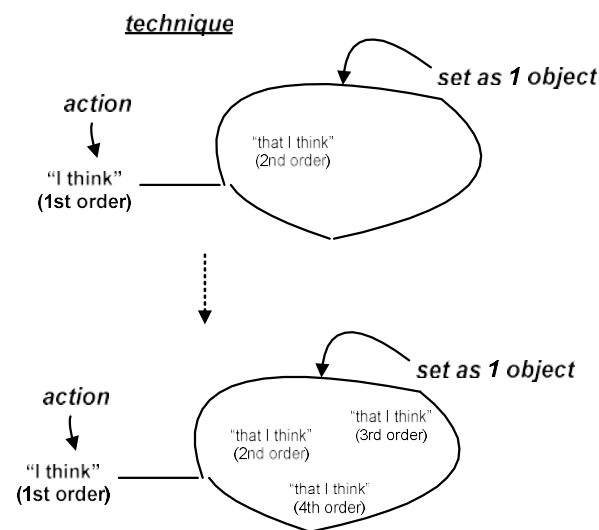
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<sup>85</sup> Rosenthal, David M., 1990, Why are verbally expressed thoughts conscious?, Universitat Bielefeld, Zif report nr 32.

<sup>86</sup> Maybe an all too wild suggestion: would this have anything to do with Miller’s 7 plus or minus 2? Miller, G. A. (1956). *“The magical number seven, plus or minus two: Some limits on our capacity for processing information”*. *Psychological Review*. 63 (2): 81–97



We have the idea of looking back on different stages (seemingly multidimensional) while...



...as an actor we only have one object to consider however turn by turn with a different composition.<sup>87</sup>

Think of holding gripping pliers in turn holding a lump of burning coal. In the action one holds only one object but in the understanding a distinction is made between the hands performing the action, the pliers held in turn gripping the coal. In the semantic consideration a complex composition is in play, in the act however only one item.

As a note in the margin, the idea of higher order thoughts is but a metaphor. There is nothing “high” about this. It is plainly an action with a displacement (the thought) in the role of the object.

Translated into our actual problem of a seemingly endless line of versions, there is an actor in play bringing forth one version, be it that the version may suggest a never ending line similar to the understanding (semantics) of higher order thoughts.

The aim of the previous explanation was to draw attention onto the distinction between the semantic level or the understanding and the technical level or the action. But there is more to it.

<sup>87</sup> Again Miller’s grouping comes to mind but this time in relation to the concept of subitizing which according to Stanislas Dehaene refers to an all at one way of counting; a pre-attentive processing which does not attend to each item.

It mentions a setting which needs to focus on.

Blinded by the endless reflections in the palace of mirrors; the mirror itself as the instance providing the reflections seems out of sight.

Again translated into the problem at hand, pondering versions one seems lost in a never ending series of which no escape is possible. But this being blinded hinders to notice that there is an actor bringing forth the different versions. The message is clear. We should not turn and turn by following an endless spiral of versions but shift the focus onto a larger scene: an individual performing an act bringing forth a product, a narrative or version. This redirects the perspective. The burning question becomes: to what end is the product produced? What is the use of it, in this case: what is the use of the version composed?

### **The criterion used to opt for a particular version**

This could be an interesting line of thought to follow because it might be the criterion to answer the problem at stake “why to prefer one version above another”.

The previous paragraphs made clear that there is an actor bringing forth a product, a version in this case, as an aid or a tool in the project of negotiating the Umwelt in order to survive. This begs the question of what version serves this goal better than any other?

Making it concrete, does religion for instance offers a better perspective than the science based versions and, why do I prefer operationalism? Considering science versus religion in case of illness for practical reasons I feel more confident with chemicals thought out by scientists than lighting candles. I will leave further arguments in favour of religion and of science to the defenders of these choices.

Considering operationalism in first instance I am not particularly motivated by realising predictable outcomes but by inquisitiveness how it all works, in particular how the human species realizes what he testifies to be able to accomplish. In a way, getting grasp on the said understanding, if correct and thus successful it would also have to imply repeatability so in the end it is not all that different.

### **Why operationalism?**

It has to do with exactly with the fact that all narratives are but versions. What interests is not so much the provenance of one particular version – however I study that to for other reasons, but how a version irrespective the storyline is at all possible.

That project is however not popping up out of the blue. It falls back on two principles which come plausible to such a degree that in my opinion they provide the ultimate basis for any understanding of human behaviour, cognition in particular.

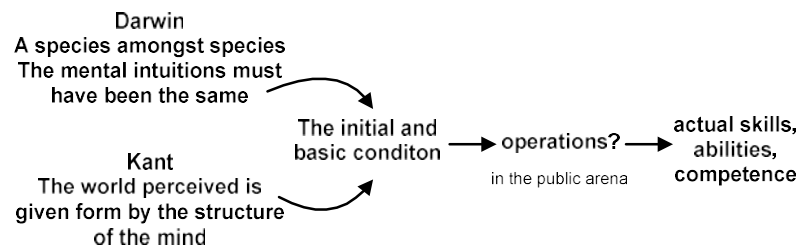
Darwin inspires one of the principles. He made convincingly clear that the human species is but a species amongst others. While the attention following from this is in most cases goes onto lines of descent taking phenotype and anatomy as point of reference, Darwin in the Descent of Man commented “that the mental intuitions must have been the same”. It will not provoke objection if “mental intuition” is getting substituted by cognition by this introducing the most plausible idea that human and non human

cognition in species most akin must once have been the same. This begs the question how the human could have evolved from that shared condition into the cognitive achievements humans testify of now.

Considering an answer I bracket all kinds of mysterious interventions, even abilities emerging from mutations. I focus on what is happening, what is getting executed in the public arena.

In second instance but equally important Kant's observation is most interesting. He points out that the world perceived is given form by the structures of the mind.<sup>88</sup> I would prefer the abilities and confinements of the body instead of the mind, but the idea is the same. And indeed the body determines how the input is selected and organized leaving one impression. It is a complete mystery how some many actually, not denying that fact nevertheless end up with accepting a human ability opening a fully transparent view on what is out there.

In short: humans are animals enabled by the bodies they have, or rather are. The burning question then is in what condition and by what operations are they able to bring forth the achievements they are actually demonstrating.<sup>89</sup>



It should be added that operationalism goes very well with instrumentalism. The latter does not aspire to bring forth a true depiction of reality – whatever that means, but hooks into the idea of adaptation in the perspective of survival. It understands behaviour as instrumental to that end.

Summarizing and in answering the question why my preference goes to the versions of operationalism and instrumentalism the following arguments are of central importance:

- the acceptance of a shared initial condition in particular in respect to the aim of survival and use of common cognitive abilities;
- that abilities are opened at the same circumscribed by embodiment;
- degree of effect in negotiating successful the burdens imposed by environmental fluctuations;
- taking distance of all kinds of presumptions and assumptions involving mysterious interventions;

<sup>88</sup> More precisely "(...) a judgement is objective with respect to empirical knowledge *if we add to the concept of a judgement the limitation under which the judgement is made*" (italics added) (Kant, 1929 A27/B43, another reference in a similar sense Kant, B XIII). A similar approach can be found in Newton's General Scholium "We do not know the substances of things. We gather only their properties from the phenomena and from the properties what substance may be... we ought not rashly to assert which cannot be inferred from the phenomena." More recently Nils Bohr states that the conditions of observations have to be included in the definitions of the quantum phenomena.

<sup>89</sup> It would divert to far of to go into it in detail but it should be mentioned that the obsession with brain centrism and information theory is put aside in favour of the importance of ecological determinants, the role of the niche, a view on cognition based on embodiment, being situated and grounded, and the importance of enactivism.

- for methodological reasons (focus on the public arena) bracketing possible effects of mutations.

I like to see that as a kind of minimal semantics; semantics anyway because it takes the form of a narrative but in doing this it restricts to describe operations and the effects following from it.

## **Conclusion**

In this contribution I have agreed with the criticism that if all is but a version, the storyline proposed in my writings is too. I have further offered the arguments justifying the version I prefer.

I would like to add that in respect to all narratives being but different versions, that this is precisely constituting the human condition. In absence of the ability to bring forth narratives it would not even be possible to consider a particular species as human. There would be another branch of great apes, maybe a type of particularly skilled ones but apes nevertheless.<sup>90</sup>

## **Postscript**

There is an intriguing characteristic to the human evolutionary trajectory. The aim of any living organism is to survive and that also goes for the human species. But it has developed a practice with a quasi open character implying a twofold characteristic.<sup>91</sup>

In first instance the human developed adaptations transcending the minimum need to survive are abundant. This confused Alfred Wallace so much that he in that particular case introduced divine intervention. Secondly, the development may well be motivated by survival but the means developed can go either way: effectively promoting survival complying survival but also destroying the branch on which the species sits and by this itself. This has been discussed in chapter 8 of *The Fifth Ape*, Wallace's problem.

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<sup>90</sup> For an elaboration on this theme "A condition considered to be a form of alienation", in *The Independent Observer*, an experienced impossibility; an essay in the bundle *On Aboutness*.

<sup>91</sup> "Quasi" because it is not open in any thinkable and even not imaginable aspect and dimension. As explained in another contribution, mediated manipulation is at the core of the human specificity. That defines at the same time confines the abilities specifying the human.





# On meaning

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## Introduction

Without doubt meaning is a concept situated at the core of the enterprise in understanding the human condition. The contributions in this part seek to offer glimpses to that end.

“Levels of meaning” as the opening piece distinguishes between relevance and meaning, concepts which are inseparably intertwined. It further offers an insight in different layers each more sophisticated in function compared to the previous. This clearly shows an accumulative process. Realising an insight in the initial condition as the platform for the development of further skills and competences facilitates the understanding of the said condition. That is the topic of the second contribution. In that the role of the hands providing the prominent interface becomes evident. The abilities and the dynamics involved support the development of further steps into a particular way of cognizing. That is the subject central to parts three and four, the latter actually being a condensed version of part three. The light bulb moment got fired up by the remarkable difference in characteristics of the tools used. The suggestion is made that these dynamics will reflect in the structure of cognition with meaning evidently at the core. This will be discussed in “The meaning of grammar of action in stone knapping for further cognition”. Meaning is not only defined by particular forms of action. In a much later stage cultural influences also play an important role. The sixth contribution with “The remarkable character of Western thought” will focus on that. In short it reflects historical based ideas dominating contemporary thought. But there are suggestions possible allowing “Thinking out of the Box”. That will round up this part on meaning.



# 1. The levels of meaning

## **The confusion of relevance and meaning**

Prior to distinguishing the different layers it is useful to draw the attention onto the terms “meaning” and “signification”. Used in a timeless and universal way they can be anachronistic in character. The idea that both rightfully can be applied in the case of the living world of early hominin and animals is incorrect.

There are two reasons for that bold assertion.

In first instance the word speaks for itself. “Meaning” incorporates “mean(s)” while “signification” holds “sign”. In that sense meaning and significance refer to what is related to a means in function as a sign. The alleged anachronism comes down to the projection of the actual use of “meaning and signification” on conditions back in time. But from a biological perspective, the qualification hence naming might be different.

What in that case should be taken as the proper stepping stone? The answer evidently is “the organism”, any organism for that matter. How then could an organism become characterized? The answer is as a unit composed by factors such as the form and the abilities of the body, driven by what is commonly accepted as primary motivations, the process of metabolism and some forms of sensitivities which are already a degree of sophistication facilitating the organism to at least stay alive. The sensitivities mentioned did not come out of the blue. Taking into account what the body allows to come into being, they are derivative functions in relation to the primary motives. Surface cells possessing some sensibility to discern some degree of light contrasting to darkness can help to move around, avoiding obstacles, give away approaching predators. In that sense the eye is not a passive screen capable to capture all what is out there to only afterwards to decide what is of importance in the chaotic inflow. It on the contrary is a selective instrument defined by the said motives. The heart of the matter is that there is a stringent functional relation between the primary motivation and the developed sensitivity. There is yet another party in play: the input neither a random given. Facet-eyes allowed trilobites to discover prey as well as predators. Their function was not to admire the beauty of crinoids waving in the current. That threesome of primary motivation, the particular range of the sensitivities and the selective type of input circles around one key factor: relevance. The sensitivity must be relevant in the perspective of the primary motives at the same time in relation to particular configurations of input. “Relevance” is the tip of the spear.

It is only in the typical Western analytic way of thinking that relevance seems to be characterized by a single dimension, a degree of importance expressed by a gradual degree of urge. But obviously relevance is not neutral; it is not without content. It is coloured at least by an appreciation for the input, an appreciation situated somewhere on the continuum of advantage to harmful. How could this condition become referred to? As said, signification and meaning are related to means executing the function of standing for some thing else hence “signs”, the core of signification. But that is not the case here while it is not empty either. It is the Western way of understanding which is too lean. Relevance is unjustified stripped from its content.

Maybe Wittgenstein's approach could lend a helping hand. In his so called second period he considered the meaning of a term being embedded in the use of it.

In the actual colloquial use the term meaning refers to all conditions irrespective the stage in development. But in this discussion a distinction is needed between the animal stage and the later condition of one particular species. The animal stage could be covered by "relevance" taking into account that it not only refers to estimation but unavoidably has content too.

For what concerns the human species, the use changed or rather became complemented by a new mode whereby as mentioned some thing took the function of standing for some thing else.

Concluding, a suggestion for solving this confusion could be to understand relevance not as stripped from its primary motivated colouring or content and meaning to refer to content provoked by the use of some thing standing for some thing else – in short, the use of symbols.

### **Relevance characteristics**

It should be added that relevance comes as a gradual condition characterized by direction and intensity. The intensity can be strong or weak, determining the force of action. A fast approaching predator will force to immediate a strong action. That can take the form of withdrawal or of repulsion, or engaging into a confrontation. In the case of a positive valued relevance the organism can experience being attracted or it can accaparate the desired goods, food or a mate for instance.

### **The importance of the distinction**

What might be the importance of making that distinction? Unveiling meaning to be used as an anachronism might be a surprising anecdote; that is however not the main reason. That comes down to the fact that the context of meaning and relevance is quite different in character. Relevance occurs in an organic bound context in which events take place. There is no choice. What occurs - occurs and is evaluated being relevant or not, or relevant to a certain degree. Meaning on the other hand, based on making use of symbols as means is arbitrary in character. Based on the use of arbitrary elements which in themselves are noncommittal i.e. not binding, it allows to make this or that decision or maybe none at all. It could be counter argued that most meanings held by an individual are the products imposed by culture through processes of conditioning and therefore escape consideration, at least offer strong resistance. That is often the case, but this discussion is about the system underlying the contents imposed on the individuals. The system is arbitrary in nature. Take the example of a devout religious person. It happens that some leave religion behind, maybe with difficulty but still. A trilobite confronted with an approaching anomalcaris has no choice. He is bound to direct action.

Relevance and meaning could be seen as the poles of a continuum. Non human animals are caught by relevance only, not by meaning in the sense humans understand. Human being organisms too and by this are subject to both qualifications. In some occasions relevance dominates. A fast approaching car might be recognized and by this having meaning – it is identified as a car of this or that make, but in the first place the relevance is of most importance and urges into immediate action. That is the reason why the model of



a continuum is suggested. In the case of the human both poles are in play. But, in relation to the situation at hand it brings forth different degrees of importance. Being victim of a famine any kind of food is relevant and therefore an urge. For well fed Westerners making a choice between French fried or rice, even to reject both is a matter of meaning getting considered.

Awareness of these distinct layers allows insight in the different characters. It is a step in the direction of understanding their relation. For instance, a situation of relevance gets provided with a translation in terms having (arbitrary, stipulative) meaning.

### **The levels of meaning**

There are two ways to present the different levels mentioned in the title, a rough and a finer tuned distinction.

#### **A. Rough ordering**

This shows three levels one coming on top of the previous but to make absolutely clear what the nature of “meaning” is it is necessary to raise attention for the prior condition.

0. The hypothetical condition comes down to circumstances in which actually no organism exists. It is knocking down an open door that consequently there are no organic sensitivities which could raise some form of impression or “image” of the world. This reaches further than a negation of the world as in “in that condition there is no world” because the negation in its own right implies in a way the affirmation of the world.<sup>92</sup> Using a metaphor, there is absolute darkness, nothing and in that condition an organism appears.

1. This condition refers to the case of relevance mentioned previously.

There is an organism, determined genetically finding expression in a particular form or body allowing particular abilities and driven by basic motivations such as the urge to maintain life and to procreate. Whatever it does it always is a function of these motives. A body provided with some form of sensitivity is favoured in that endeavour. The theory of natural selection explains that these sensitivities are not random. They have to connect to environmental cues important for the purpose. The said motives, accompanying behaviour and the sensitivities, all need to be relevant.

2. Locke suggests a blank slate as onset. As has been made clear it is not really a blank slate at all but a particular driven and embodied condition. However as this provides the starting condition, it will in Locke’s sense be clothed by continuous and often recurrent experiences. With each experience the “understanding” of the organism will become richer and firmer engrained.

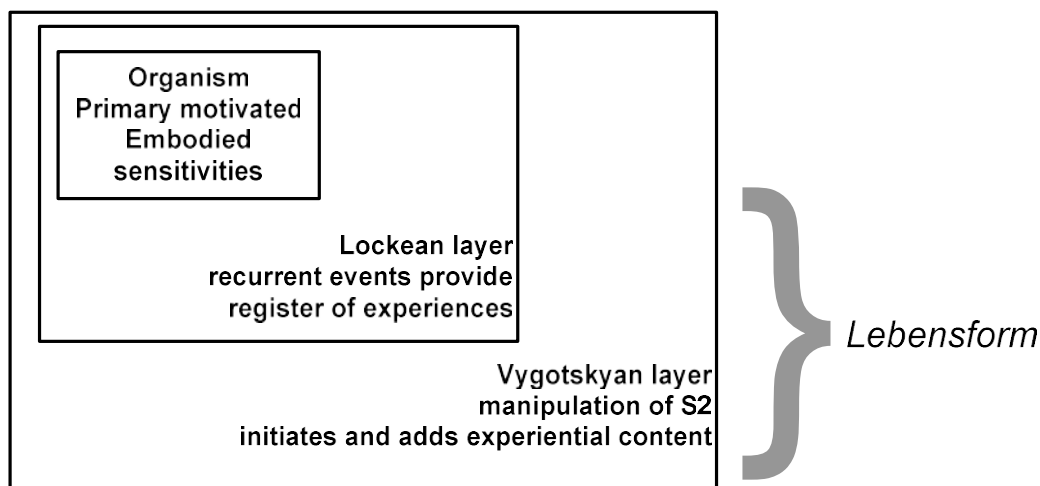
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<sup>92</sup> In that sense, atheists are weird people. By the fact of denying a godly instance they introduce the very concept of it.

3. In the case of the human there will be an extra layer on the one hand adding to and on the other transforming or rather translating, the condition mentioned previously. By the manipulation of objects functioning as stand in or substituting stimuli, consolidated neural configurations may become reactivated and by this providing content to the actual experience. This the way imaginative content is initiated by the actor himself. Because Vygotsky drew the attention to the function of second order stimuli, it will be called the Vygotskian layer.

Wittgenstein coins the end result brought forth by this layered enterprise “Lebensform”.

Schematic



It should be clear that the way the environment is getting viewed and understood is a composite construct, cannot be else than a construct. In that sense the suggestion of an objective view raised by an independent observer is incomprehensible.

As a note in the margin, the conditions mentioned force into the following implication. They consequently determine the way the environment will become negotiated. This goes against the rather naïve mainstream belief that for the human, in principle the world lays open in front of him in an atmosphere of complete freedom in which anything goes. On the contrary what is and can be accomplished is subject to the dynamics and the structures inherent to the conditions mentioned.

## B. Distinguishing the levels further

1. This refers to the condition started with in the previous part. Meaning – as said an anachronism in the actual setting, comes down to what is relevant in relation to the primary motives, i.e. sustaining life and procreation.

2. This is intertwined with the previous condition. The relevance is related to, stronger still co-determined by the type and construction of the body. The cow as any other organism is motivated to stay alive. But the body it has, the way it is built determines the orientation and the abilities opened by the species characterizing body plan. Man is no exception.

There is however a remarkable detail providing specificity.

While the hominin is akin to other ape species it in the meantime is common knowledge that around four million years ago he started moving around on the hind limbs (Kanapoi region, Laetoli, mentioned in Stoczkowski, 2002:75). This resulted not only in a different mode of locomotion but changed the perspective on the surroundings quite drastically. Further and not less important it freed the hands from the burden of supporting locomotion, hands which already were skilled in grasping and holding. They became the first rank orienting interface; the prototypical way of accessing what from this point of view and grasp was of importance in the environment.

In that sense the motive determining the drive onto the world mentioned under (1) got specified by the form and accompanying abilities of the hand. Not all what in principle could satisfy hunger appealed, but what the hands could grasp became the prime subject of selection.

In summary, the primary motives provide the first layer. The hands provide the second in that they refine the first by their selective function. Strikingly in many explanations this layer does not get much attention, if any; it is getting overlooked disappearing in the mists of obscurity.

This is quite remarkable because in finding out what something unknown is, the Western tradition looks at what it can do or what it can be used for. Not so in the case of the human. Blinded by the Greek heritage Westerners look for the essence<sup>93</sup>. If on the contrary man would have been approached as a thing unknown, then the hands would certainly have stood out in providing some degree of explanation.

3. The previous stage ended with the hands instantiating the defining interface with the environment. A further step consisted in expanding the abilities of the hands with a supporting and reinforcing implement in short the introduction of tools. A tool in origin instantiated an expansion of the workings of the hands engaged in a particular task. There was not the active hand on one side and the accidental present hammer-stone on the other as two elements divorced from one another. If the term meaning could be applied the meaning of the nodule collapsed with the task taken up by the hand.

Meaning taken to be the content of the relevance is in this stage embedded in and bound to the particular purposeful action.

4. The shift from meaning collapsing with the type of action to meaning by association.

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<sup>93</sup> "Ti esti ti" or what is that – that what is (referring to the unchangeable essence, the nature of it).

Accidentally the hammer stone could have been involved in another event of importance, fending of, even killing an enemy for instance. The presence and moreover the presentation of it on another moment and in another location could have sparked a condition of reminiscence in the actor and others having witnessed that event. Based on association the tool in question acquired a semantic payload. In itself a meaningful experience provoked by association is not extraordinary. An animal of prey picking up the smell of a predator or hearing the sound produced by one will also be fired up as if the threat was actually present.

It becomes special if the actor seems to be able to initiate himself an experience of this kind. But that is another subject. Here we focus on the different layers of relevance and meaning.

It is in this fourth layer that meaning with means and signification with sign at the heart of it enters the stage. At this point there is no longer only relevance in play but also the experiential content fired up by the use of means. While in the previous stage the hominin could at best be considered to be technical skilled and by this different from other great apes, here now the pathway into the human condition is opened.

5. The ability to initiate oneself imaginative content making use of secondary stimuli, recall Vygotski's layer mentioned, allows to construct concepts and narratives which in the previous mode were not possible. Thereby any manipulable unit can become a tool allowing to introduce i.e. define or stipulate meaningful content. Stipulation thus refers to the activity of constructing scenes in the imagination by making use of 2<sup>nd</sup> order stimuli. It stipulates how the scene is set up, how parts are to be related to one another. It organizes the narratives according to the dynamic of the system bringing it forth i.e. mediated manipulation. Meaning on that level is constructed, it rises up from stipulation.

6. The sixth level comes actually down to a sophisticated application of the stipulation mentioned. Stipulation could be seen as the organizing of parts. It merely reactivates what is a residue of past experience (recall Locke). It builds or rather rebuilds making use of what is already present. Take the following illustration. We have seen for instance the act and experience of drinking or suckling milk. In a later stage the experience could be recalled by the use of the concept "drinking milk" as a stimulus of 2<sup>nd</sup> order.

But this now becomes taken a step further. Parts are constructed and related to one another on the basis of similarities and/or of shared characteristics as in metaphor and metonymy. Some ideal location might be referred to as the land of milk and honey. This transcends the pure meaning of the consumption of a type of drinkable fluid. The rich nourishing quality is getting projected onto the assumed quality of a region. In the same sense the movement of the camel and the wave character of a sandy desert allow to describe the camel as the ship of the desert.

While stipulation adds an imaginative dimension to that raised by direct experience, the imaginative realm obtains through projection a larger expansion.

## Overview

1st level	Primary motives determine what is meaningful
2nd level	The body of the organism provides sensory and motor sensitivities and abilities modeling further the character of what is meaningful. In case of the human species being bipedal and the availability of the hands are crucial factors.
3rd level	The primary use of a tool adds its proper layer of meaning (scraping, carving or hammering...)
4th level	Meaning by association adds a meaningful payload to the implement used in supporting action. Displacement enters the scene.
5th level	If a particular association is brought in relation to another content also based on association, an association of second order arises as in the case of semantic fields, a linguistic structural environment as meant by de Saussure. On this level meaning by stipulation enter the scene. In this elements of 2nd order associations are used to compose new meanings.
6th level	Particular application of the former: based on similarities relations between associations of 2nd order are introduced (projective)

## Concluding

Meaning is a core concept in the humanities. It is of particular importance for studies in cognitive archaeology aiming at understanding the coming into being as well as the specific characteristics of the human way of knowing. The term is often used as if there is only one meaning of meaning. In that respect it is similar to the understanding of time. All seem intuitively to know what it is, until asked to provide a definition.

As has been explained there is more than meaning alone, also relevance is equally important. The combined whole of relevance and meaning can be ordered into different layers. If that distinction is not taken into account the meaning of a given occurrence risks to come as a massive difficult if not impossible to digest given. The distinction offered allows to relate aspects of the understanding of a given scene to the animal or to the cultural dimension of the human species. It helps to open a window into the special at the same time weird character of the human condition.



## 2. Knowing the hypothetical initial condition

### Introduction

In *The Forgotten Transition* (2018) two types of worlds got mentioned. The “first” referring to the hypothetical initial condition is of major importance<sup>94</sup>. It is a subject worth studying in its own right. But still more important for the actual presentation, the characteristics and skills of the modern human species can only be well understood against precisely this supposed initial condition.

It is the condition we have in common with animals which are biologically close to our species. At least, this is what Darwin’s approach suggests.<sup>95</sup> On this assumption biology will conclude that form and function of the organism in the end will be a selection arisen under the pressure of the environmental conditions of the moment. Cognitive biology will deploy a similar argument however restricted to cognitive processes and abilities. But instead of focussing on the mechanism of selection as in biology, a different perspective is also possible. Darwin’s theory implies that the very moment the hominid which would become human in the end, choose his own path of development, he would have organized input perceptively and cognitively similar to his closest relatives being the chimpanzee and the bonobo. This agreement provides the fertile soil from which the typical human abilities have been sprouting.

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<sup>94</sup> Cfr. Stated in the conclusion of an article by Penn, Holyoak and Povinelli dealing with the functional discontinuity between man and (other) animals. These authors formulate the following lamentation: “In our view, the entire field of cognitive science (...) would benefit if more effort were focussed on constructing biologically plausible, behaviourally accurate, computationally feasible models of the cognitive abilities of honeybees, corvids and chimpanzees, in addition to the cognitive abilities of the enculturated, language wielding humans” (2008:129).

Some similar idea of an initial condition can also be found in Piaget’s “Child’s conception of reality and causality”, in particular section IV (1930:237-305) According to the text the young child’s realistic way of experiencing the world or rather his own existence does not have to be learned. On the other hand features characterizing the experience of the modern human are the product of imposed development in a social context. In this sense this primary condition seems not be different to that of animal species most akin to man. For instance, **feral children** never been in contact with civilized humans **do not show** characteristics of **objectification or decentering**. All this in accordance with the remark of Richard Leaky that man is actually the fifth ape and thus initially sharing the same cognitive conditions.

Observe that Kant and Leibniz state that the very young child does not possess what they call the tools of understanding – referring to the basic schemes of causality, time, space etc. So here also there is absence of the features characterizing a person provided with the capacities of reason. But, in their view these are genetically programmed and do not need experience to come into development.

<sup>95</sup> Cfr. Tod Preuss in Gazzaniga (2000:1231) referring to this continuity in the conclusion of his contribution “Despite this, adherence to the doctrine of continuity and belief in the basic uniformity of cortical organization have led neuroscientists generally to stress the importance of features of brain organization that are shared widely among species, and to downplay the importance of species differences and the kind of research that is necessary to identify them.” An earlier footnote by Coolidge & Wynn is also of relevance here. “These early hominines shared a cognitive phenotype that was indistinguishable in its major components from that of gorillas, chimpanzees and bonobos. These bipedal apes occupied the same cognitive grade as their knuckle-walking cousins.” (2009:106) and also “There is no reason to invoke advanced planning abilities, or even foresight (...) beyond the range of modern apes performing hierarchically organized manual tasks.” (ibid.:98)

But how could we, being only able to perceive and understand in the way modern humans do, tell something sensible about a condition we no longer partake? Obviously a first hand report in the sense Nagel meant when formulating “what is it like to be a bat?” is out of reach.

However we are not completely ignorant. There are pathways allowing a glimpse on the mentioned condition<sup>96</sup>.

The strategy suggested consists of four interlocking positions.

(1) What are the implications of being a species among other species?

(2) Based on observations of animals in the wild, observations of animal behaviour under controlled conditions, on data rising from problems in constructing robots and the development of artificial intelligence, a picture emerges, be it slightly more than a suggestion about the way animals akin to the human species have a world. Ideas about embodiment, situated and grounded cognition, proposals such as enaction, concepts borrowed from Gestalpsychology and constructivism, stressing action based negotiation rather than focussing on the ideal of knowledge... all these can add to the picture mentioned. An approach such as this will be called positive because elements are introduced in a constructive way.

(3) As a comment added to (2) there is evidence that the intelligence of animals reaches beyond the behaviour of an automaton.

(4) Apart of a positive, there also is a negative approach within reach. There is abundant knowledge about the features characterizing the modern human species. The suggestion is to bracket precisely these features, thus rendering an idea of what it is to be in the world without these capacities.

(5) The previous steps are to the extent possible underpinned by existing literature. This last step bears the character of a free hand approach resulting in a rather impressionist depiction.

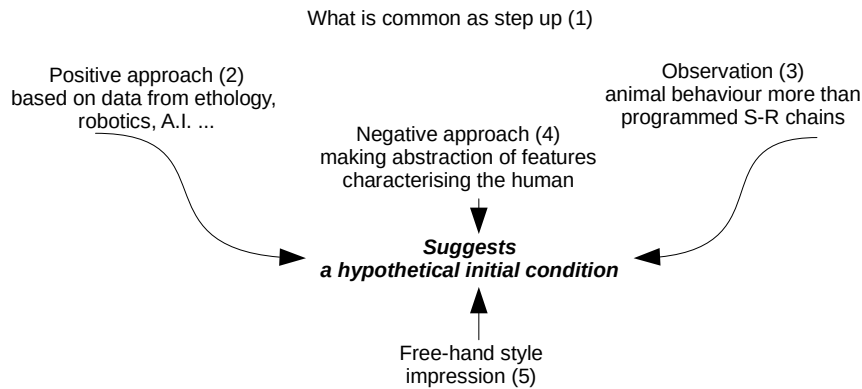
As a scheme:

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<sup>96</sup> Cfr. with Gärdenfors (2006:16) making suggestions such as: 1) observation of different animal species, taking into account what is already known about their respective phylogenetic development; 2) the study of the brain as set of different layers with the eldest or most primitive at the centre while the most recent developments are situated at the outside; 3) the recapitulation theory suggesting/exposing developmental steps and 4) data from archaeological finds and from anthropological studies.

For an informative overview on comparative research of the development of animal and human cognition, reference is made to MacLean et al. (2011). Their rationale agrees with the proposed approach “(...) if we understand how cognition evolves in nonhumans, this may in turn inform our understanding of how our own species’ cognitive abilities have evolved.”





## Discussion

### 1. Common ground

In first instance we have a common ground.

Humans are after all a species amongst others, biologically only gradually different in some aspects. This thesis is no longer contested apart from the point of view of explicit and implicit creationists. The former adhere priority to revelation while the latter are convinced that there must be “more to it (all)”.

Humans belong to the chordate meaning that like many other species there is a single dorsal nerve chord present. Humans are mammals and further down on the evolutionary tree members of the large family of the primates. This includes stereoscopic vision and an opposable thumb allowing fine grip. Primates in most cases have quite large brains compared to other animals. And still a step further down the human species diverged from the chimpanzees as the closest relatives only seven to five million years ago, quite recent in the overall perspective of the evolution of life.

So humans share the body plan and the physiology with a lot of other animals. But the similarity does not end there. It reaches into the field of the psychological functioning. One does not have to look all that far in order to find evidence. The results of psychological research into the primary human behaviour taking scent, taste and colour into account and appreciating the importance of movement are translated into sales strategies used in supermarkets. These do not appeal to the higher intellectual capabilities but into more animal like characteristics. Or take the seduction strategies between sexual partners or even broader the nonverbal showdown amongst rivals. The whole area in which relations are getting regulated on the most basic of levels is easily understood as a type of behaviour propagated in the animal world.

But in an even more general frame of reference there are fundamental dynamics that are shared between animals and humans alike.

Take the core dynamic of all living creatures: the propensity for self sustenance in the perspective of procreation coming down to the transference of genes.

The elements mentioned offer no more than a rough outline. But they show a profound commonality with some animals, primates in particular.

So far for a first glance on the way, at least some animals are in the world.

In general this does not get a lot of attention. There is a tendency to focus on the differences, regrettably neglecting what is in common.

A warning is appropriate.

In the aspiration of understanding animal comportment one should beware for the temptation of anthropomorphism. This not only installs a false image of the way the animal experiences the world. More important for the actual project, it undermines the pathway to an accurate insight since it seduces to compare features specific to humans with humanlike characteristics attributed to animals.

## **2. A multidisciplinary approach**

The second step in sketching what the initial condition could have been like is based on research in ethology, paleoanthropology, archaeology, robotics, artificial intelligence and suggestions stemming from psychological and philosophical models.

Two versions will be offered. The idea behind this is that it is quite unusual to say the least to imagine the initial condition and more then one narrative offered might help to fill in the picture suggested.

### ***Version 1***

Each and every species has a specific way of perceiving the environment it finds itself in. Perception is developing in the tension between the particular conditions of the primary motivation at a very moment and what is happening in the environment. More specific, the “image” taking form is in first instance a function of the embodiment of the species in question meaning, what it is able to perceive in respect to its bodily capacities. In second instance this image also is a function of the actual condition of the organism, being hungry for instance. Last but not least it is a function of what is happening in the environment which could answer the previously mentioned condition. So the experienced perception emerges at the intersection of embodiment, the primary motivation and the state of the surrounding chaos. Therein a figure takes form which could be understood as “the relevant phenomenon”.

The question is how a phenomenon like this could be characterized?

The difference between “seeing” and “looking at” might be of help. It is what pre-Socratics distinguished between “noein” and “blepein”. Seeing is a rather passive mode. It comes down to what the senses experience under the bombardment of the exterior forces. “Looking at” on the contrary is a more active way of focussing.

Different aspects are of relevance here. From a physiological angle, if the influx of stimuli results in patterns which remain stable over time, the level of attentiveness goes down. This will only be aroused as soon as the mentioned patterns gain a dynamical pulse, when in other words there is movement. From the angle of relation regulation<sup>97</sup> the perceiving organism shows a sensibility for predators and for prey. Both have an important characteristic in common: they move.

It results in rapprochement in case of food or taking distance if there might be a threat. On the other hand many organisms tend to freeze in sight of danger. They keep still, play for death in order to avoid being

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<sup>97</sup> The very low level tension between organisms seeking to find dominance or balance.

observed. Predators which normally do not scavenge avoid immobile corpses preferring live prey which in itself is a sign of health.

Movement is the keyword. Taken more broadly this may be rephrased as “event”. Gestalt psychology with its characteristic stress on dynamical qualities is more appropriate to describe situations like this, rather than a mechanical sequence of stimuli and responses.

In Gestalt what moves takes the foreground. It becomes a “figure” while what is of less relevance disappears into the vagueness of the background. This dynamic field wherein events obtaining foreground value has to be considered as a unity, a melting of organism and field. This has affinity with the way a very young child experiences the world.<sup>98</sup> It has not yet learned to discern itself from the outer world, the latter perceived on a distance “over there” in front of the child, itself as an instance very different to that world. In the experience, child and world collapse into one.<sup>99</sup> The idea brought under the attention is in the first instance that other non human animals partake in a same type of experience. Secondly it is also of interest to observe that this type of world is not the type populated by sharply distinguishable objects.

## *Version 2*

As soon as an animal opens the senses it experiences a – world as a – dynamic fluctuating field. If the geometry of a field like this would be projected on a sheet, the form and volume would be defined by the scope of the abilities of the sense organs. It would immediately become clear that this projection is not circular. Take the visual dimension for instance. For a predator with the eyes oriented forward the visual world would take the form of a triangular lobe. In the case of a grazer, the prototype of an animal of prey, the eyes sideways oriented would cover a region of about 300°. The same goes for the other sense organs. They all render a particular field of perception. All these volumes merged result in what von Uexküll calls the Umwelt. But of equal importance the motor capabilities add their own volume of action. Both give existence to a particular life world.

This world is however not neutral neither static. It is in a constant flux. There is movement. If the fluctuations are getting perceived depends on the abilities of the sense organs of the organism in question. What not can be grasped is not part of that world. On top of that the pressure of the primary motives is of

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<sup>98</sup> Cfr. Kellman on Wertheimer’s “gemeinsammens Schicksals” (Kellman, P.J. The origins of object perception; in *Perceptual and Cognitive Development*; 1996. Gelman, R. & Kit-Fong Au, T. (eds.); Academic Press.

<sup>99</sup> J.J. Gibson observes that “The words ‘animal’ and ‘environment’ make an inseparable pair. Each term implies the other. No animal could exist without an environment surrounding it. In the same sense, though not that obvious an environment implies an animal (or at least an organism) to be surrounded” (1986). We are dealing with the experience of having a world. Gibson on the other hand talks about form and function of (parts of) the organism. But the unity of the organism with its Umwelt agrees with the general idea. This very idea appeals to another quote which might only superficially be related to the actual discussion. According to W.D. Hamlyn, Theophrastus in *De Sensu* refers to Empedocles who does not make distinction between sensation (the physiological processing of input), perception (being the interpretation of the aforementioned input) and the act of thinking. So apparently for these people the three elements would have been experienced as one single fact or movement. According to Hamlyn the discrimination between sensation, perception and thought as three different domains became introduced in the period of Aristotle (1961). The suggestion implied is that the act analysing into different parts is a particular perspective introduced at a certain moment in history.

decisive importance. Being hungry will give rise to a particular sensitivity for stimuli or fluctuations which can fulfil this demanding need. If on the other hand the animal is not hungry, food which is even within reach, will uninterested be left aside as if it did not exist. The primary motives will motivate (!) the animal to move. More still, they will take away the neutrality of the Umwelt and provide it with meaning.

So far, a picture has been drawn of a dynamic field characterized by a certain form. This form is related to the capacities of the sense organs. Fluctuations appear in the field and obtain the status of event only in relation to the condition of the primary motivation present at that very moment. This attracts the event into the focus of attention, gaining salience in perception, not sharply delineated but rather like a form rising up under a veil which gradually flows into the surroundings. Gestalt psychology would call this “becoming figure”. The background merely gets any attention.

This description already reveals what is of importance. The primary motivation feeding a particular sensitivity seems to be the necessary condition. This type of sensitivity being absent, everything becomes dull, in a way synonymous with background. This sensitivity is characterized by a kind of openness for a particular event. Something in the field has to move in order to attract the attention of the organism. Therefore movement is a decisive criterion.

To appreciate this to more fully, it can help to draw the attention to the fact that the modern human to a considerable degree is oriented to features with a more static character. This does not exclude the importance of movement. As mentioned before, publicity in supermarkets precisely takes advantage of this. Any type of movement, figures changing position or light changing in intensity or colour, it all seems to exert an attraction which cannot be resisted. It hooks into elder systems shared with animals. But for the negotiation of the world, modern man is looking for – remember “blepein” – more formal features with a static character. For man, the world in first instance is full of entities susceptible to manipulation. He not only refers to *the* chair as a concrete object, but also speaks of *the* goodness and of *the* inch as if these too would be concrete and as such inviting to be manipulated.

It goes with yet another characteristic, being bound to the local and the current, in short the “here and now”. The experience is enclosed in the situation of the moment and exclusively at that particular spot. There is no anticipation looking ahead into the future. Existence is strictly bound into the immediate. What appears to be anticipation like the annual migration or the recovering of previously stored nuts by squirrels, this has no comparison at all with a planned looking ahead realized by man, it is of a different order altogether. Behaviour like the annual migration can be attributed to genetic programming probably in combination with some form of situated cognition.

The elements mentioned so far allow a summarizing sketch. The organism experiences its existence as a unity, an indivisum taking the form of a dynamic field in which turbulences take place. Some of them gain figure value or become events in relation to the condition of the primary motives. That type of experienced existence is enclosed in the local conditions of that very moment.<sup>100</sup>

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<sup>100</sup> For more characteristics of the hypothetical initial condition, see XIV.2.1.

Two further elements complement this picture.

The modern human shaped by culture is able to think back about situations from the past happened on other locations. With the same ease he is able to render representations about actions he would like to undertake in the future. He can so to speak in his imagination displace himself in space and time.

This is not exceptional. This type of experience overcomes animals too, in any case those provided with a central nerve system. The scent of a predator can give rise to a vivid excitement in an animal of prey without even perceiving this predator in the flesh, without even the predator being really present at all. This type of imagination is familiar to man too. Think of burning incense reminding of church or of cakes reviving Christmas scenes. So an animal is not devoid of some form of imagination. This observation supports what will be explained when Moravec will be mentioned further in the text. The experience animals undergo is richer than that of an automated stimulus response chain.

But there is a difference of decisive importance which already became clear in the examples given. The animal *undergoes* imagination. Cued by an external event it is taken through it. Man on the other hand is able to initiate imagination voluntarily, by his own hand, by some action he executes.

The second element is related to the act of thinking; however this term is used here with reluctance. Because "thinking" is a concept referring to a selection of processes being themselves part or rather aspects of a global and integrated action. Referring to "thinking" already implies a form of anthropomorphizing, in particular a certain cultural perspective. But even with this critical remark in the background, there is a clear difference between man and the non human animal. In the act of thinking of both, association plays a central role. In the animal it is related to content of episodic nature. This refers to events which in the life history have been experienced earlier. But in the associative relations man organizes, semantic content such as definitions of the type found in dictionaries is central, maybe even of most importance. On top of that the structure man applies is not only that of heuristics and automated procedures, but takes the form of systemized series as in logic and rhetoric. The procedures executed by animals are supported by instinct or are consolidated through events with a recurrent character. They also occur in humans but are complemented with model construction of imaginative nature and with scenarios or narratives rendered by the same type of imaginative effort.

So far for an attempt to sketch the way a non human animal might experience its existence in the world or at least an effort to indicate some important differences with the way humans do.

Besides in one particular instance, none of the ideas proposed is original. The primary motives giving each and every organism direction and intensity can be read in the concluding paragraph of Darwin's 'Origin of species'. The idea of a relation regulatory tension is borrowed from "The pragmatic aspects of human communication", a book by Watzlawick, Beavin and Jackson. A "dynamic fluctuating field" is a combination of "die Umwelt" by von Uexküll and the dynamic arranging of elements by von Ehrenfels. The stress on the experience bearing the character of unity goes with the principle that the experience of the whole is fundamentally different to the sum of the constitutive parts as formulated by Wertheimer. The perceived environment taking the form of a multi dimensional volume has affinity the work of R. Cytowic on synaesthesia. What is relevant in that field and determines perception can be attributed to Koffka while the concept of "figure" was introduced by Rubin. Koffka and Rubin both were assistants of Wertheimer. A fluctuation gaining relevance as a function of the primary motives can be related to the

idea of a structural coupling as formulated in the joined efforts of Varela and Maturana. A dynamic world full of events has already been mentioned by Northrop Whitehead. Ostrovsky illustrates the importance of movement as a discriminating criterion. This in turn is getting supported by data raised by blind people who recovered visual capacities after a surgical procedure (Gregory and Wallace; also Fine; Huber; Held; Molyneux (Degenaar, 1996). Recognition of static features not being native has been argued by W.D. Hamlyn while C. Moore adds that this competence has to be learned in the same way language has to be acquired<sup>101</sup>. Being bound to the “here and now” is getting expressed in what is known as the Bishof-Kohler hypothesis and is also pointed out by Povinelli. It agrees with observations made by Suddendorf and Busby about the gradual development in young children of the ability to anticipate. The positive valorisation of heuristics in the solving of problems is discussed by Kahneman and also by Gigerenzer however both take another perspective. The act of reactivation and subsequent revival of memories is by Edelman strikingly called “remembered presents”, while Damasio speaks of “projective memories”. Gärdenfors names the imaginative displacement cued by external factors “cued representations”. Stressing the difference between heteronymous and autonomous cueing of displacement is actually the only insight for which no reference could be found while precisely this feature may be considered to be of pivotal importance in the development of modern man.

### 3. The power of implicit heuristics

The third perspective goes against the Cartesian conviction that the human is an extraordinary creature provided with a nature completely different to animals. In his appreciation animals do not reach much further than that of a mechanic driven automaton.<sup>102</sup> This idea, since long considered naïve, is countered from a rather unexpected discipline. One would in first instance think of psychology as a source of criticism. But it is getting disapproved by data emerging from the field of artificial intelligence and the development of robotics in which high sophisticated digital models and techniques are getting applied. The paradox of Moravec offers a striking illustration. It is considered a paradox because the findings go against the general opinion assuming that higher intellectual capacities necessarily require quite sophisticated processes. But according to Moravec this is not the case. The most difficult steps in constructing robots, is actually the implementation of low level processes and skills. The so called difficult processes seem “relatively” simple to reproduce.

Shettleworth formulates an insight supporting this. As an evolutionary biologist she observed that the scope of problem solving by means of heuristics seems to be capable to tackle quite complicated situations.<sup>103</sup>

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<sup>101</sup> Reference has already been made to the work of Mendes pointing out that children younger than one year fall back on spatio-temporal features. Little by little older children pay more attention to features of the objects themselves and the category of objects the item is a member of. (Mendes, 2008)

<sup>102</sup> See for instance Donald stating that animals cannot think and are creatures of conditioning reacting to the present or the immediate past. For a more balanced discussion, see John Cottingham (1978).

<sup>103</sup> The following cases offer some illustrations. Dr. Alice Auersperg at the Department of cognitive biology of the University of Vienna has a cockatoo which is able to open a complex lock requiring five steps to be executed in a defined order. The example of the orang utan getting a nut, which is at the bottom of a glass tube, by spitting in water so the nut starts floating up in the direction of the mouth of the animal (dr. Joseph Call, Max Planck institute, Leipzig).

Insights like these refute the image of an animal as a dumb brute only being able to execute stimulus response chains in a rather mechanic way. They might not be provided with the higher cognitive capacities humans testify of; their cognition is never the less quite rich in its own right.

#### 4. Features setting man apart

Speaking of the higher cognitive capacities humans testify of, this is exactly the subject to be discussed now and referred to as the fourth element in the scheme presented earlier.

There is abundant literature on the features setting man apart from the other species however each author proposes his own favourite<sup>104</sup>. But this is of no importance to the actual discussion. It has to be stressed that this subject in its own right deserves a full treatment<sup>105</sup> what can not be achieved in scope of these pages. But it is possible to offer some hints, may be point out even the most remarkable features. The rationale is that precisely leaving out these exceptional competences could contribute in understanding the way non human animals have a world, a position man once shared with the species most akin.

Calling the fact that man is the only organism using tools and symbols to negotiate the world, is one of the most remarkable characteristics will not give rise to much controversy.

Some animals apply tools too, but these are used in an incorporated fashion. As such they are an extension of the bodily dynamics. More over the instruments in question are quite primitive and exclusively dedicated to one single task. As far as the term development can be used rightfully here, it is in no sense comparable to the sophistication and complexity of the tools used by the human species. The multifunctional way humans make use of their tools is not even taken into account.

In the context of human way of life it seems that tools, instruments, means in the most general sense, form a distinct field of development, a field positioning itself between the human and the world.

Take linguistic signs as prototypical example. They are there present as a set, at hand inviting to be manipulated. Making use of it opens the ability to negotiate the world in an intrusive way, following the path of analysis or of synthesis. This leads into an imaginative expansion of the phenomenal field. As an implication, the human is no longer bound to the physical environment. Using imagination he expands the world he experiences. Signs used as instruments allow to think and also to communicate with conspecifics about what is out of sight, about what happened in the past.

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Primates proved to be able to recognize faster than humans ever could, fifteen different numbers in a certain order (Dr. Tetsuro Matsuzawa, Institute for the study of primates, Kyoto). I have to admit not being all too happy with Heidegger's statement that "der Stein ist weltlos, das Tier ist weltarm, der Mensch ist weltbildend". What hinders is that an animal is qualified as being "poor in worlds" in contrast to man being able to imagining worlds. He means it correct – an animal cannot initiate an imagined world - but that is not imply that an animal's world is poor. (Die Grundbegriffe der Metaphysik, Freiburger Vorlesung 1929/30; Klosterman 1983:261.) The scope of what animals can access and reach in the appreciation of the behaviour of others is nicely shown by Call & Tomasello (2008) concluding that apes can predict actions of others on the basis of past experience (the reach) but they do not go beneath the surface to an understanding of the goals, perceptions, knowledge and beliefs that guide action. Call, J. & Tomasello, M. Does the chimpanzee have a theory of mind? 30 years later. *Trends in cognitive sciences* 12(5), 187-192.

<sup>104</sup> Also discussed in the chapter "The difference making the difference", in particular XIV.1.5.

<sup>105</sup> W. Stockzkowski (2002) offers a splendid overview.

This skill reaches its pinnacle in that particular case a human takes himself as an object of observation and comment.

Here an organism, a species among other species appears, able to consider himself without any apparent effort. More broadly taken the whole world, man included, has become object of mediated manipulation.

This is the way man gives rise to a world he seems to appreciate as reality.

In this type of reality construction language as a technical interference plays a major role. Take image schemes for example. It are quite simple structures continuously present in daily life. "Finding oneself *in* a room" pictures a container. This in turn can be projected on non physical situations as in "finding oneself *in* difficulties". It will be clear that the latter sentence has not to be taken literally. It is a trope. Something similar can be found in the use of metonymy. "There is a Rembrandt on the wall". Again the man himself is not hanging on the wall, but one of his paintings. This type of expressions is abundant in colloquial language. Take "an animal giving birth...". In fact an animal is not giving anything in the sense of handing over an object for the receiver to keep. But "the process of birth" has been objectified here and as such it became something susceptible to be handed over. Or "time is running out and time flows...". In so far time would exist in a material form, it does certainly not have legs allowing it to run, neither has it the qualities of a liquid allowing it to flow.

So far for a few illustrations of the way being bound to the here and now becomes transcended and the phenomenal is getting expanded making use of imaginative techniques.

Summarized: the human is able to expand his experienced world in an exponential way and on top of that make himself part of that very experience. This allows considering that world and his position into it as if it concerned something spread out in front of him.

These are some of the qualities characterizing man and setting him apart of the way animals experience their world.

The suggestion is to put precisely these qualities aside – what earlier got called the negative approach. This way the human peculiarity would evaporate and give rise to an approximate picture of a pre-modern human experience or the hypothetical initial condition.

## 5. An impressionist depiction

In the previous contributions knowledge gained by experiments and framed in theoretical points of view was central. It is now time to offer a rather more impressionist depiction in which empathy and imagination play a role.

For a start, imagine there is no language faculty, no occurrence to speak<sup>106</sup>. This immediately brings forth far reaching consequences. The ability to speak being absent, no verbal thoughts can take form neither. This is no small omission. Realize what an experience would be without the presence of a verbalization of some sort. At once silence the unrelenting endless yapping voice in the head would be silenced. No endless consideration, no endless judgment, no never ending stream of comment, no lamenting about bad

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<sup>106</sup> Compare to "Einklammeren" as suggested by Husserl, putting aside as a methodological intervention **BIB**



weather conditions, no admiration for a fabulous sunset. No verbal cueing of events happened in the past, no planning about enterprises to be undertaken in the future.

The world molded and organized by language is gone.

Remaining is a kind of silence, not in an absolute sense but an absence of words, descriptions, judgements and scenarios. In place comes an existence in its full glory, nothing else. Consider a cat on a windowsill. It sits. It instantiates nothing else than being seated. It is taken by the demands of the moment.

However it might seem a paradox trying to depict with words what it is to be without words,. the previous lines offer a hint in that direction allowing to go yet another step further.

We now will not only leave words behind but also means. While the use of these exactly characterizes the human condition. There is hardly anything mentionable in which means are not involved. Take language discussed in the previous lines. It allows man to transfer information. Indeed animals do not speak but do they not communicate too? Bertrand Russell observed that however his dog was an intelligent animal, it never shared information about the kindness of its parents. Meaning that some declarative content is missing. The human linguistic mode of expression is apart of some emotive exclamation all about declaration. But this can only be executed thanks to the manipulation of means in that particular case called words. The use of words fills the human existence, but this is even more the case for the employment of means. They are used to protect the human from the whims of the weather, to provide food, to hunt and fish, to farm, to transport. Means are always involved. They are really the difference making a difference. It is however the purpose of this exercise to also put means between brackets, to imagine them not being existent. Einklammeren, putting aside for a while as Husserl meant. A world without language already seemed a land slide. A world without instruments has more of a seismic shift. It reduces operations onto the environment to direct actions of the body. No club to kill, no knife to cut, no wheel to transport with, let alone a smart phone or a computer. Only what the capabilities of the body allow are within reach. The dynamic body in a direct relation to other dynamic bodies, with the environment, with the Umwelt is what existence characterizes. A mere being not in the sense of pure but rather of brute, raw, in no sense mediated. An existence devoid of verbalization implies no object of reflection.

There is yet another step imaginable. The means mentioned are strictly taken objects. The denotation "object" is an idealized and generalized concept of what started as a particular and concrete utility which over a great span of time by endless repetition raised a general pattern.

At first there was the one concrete nodule of flint supporting a particular type of manipulation which could have been the breaking of the shell of a nut, the bolster of a fruit or a bone to expose the marrow. The benefit experienced directed focus hand and eye in reaching out for more of what could be affordant for similar enterprises. Slowly the characteristics of forms which proved to be optimal in that respect constituted a template, a scheme, an idealized form. It was no longer all about this one particular nodule in a specific action but it overarched all forms suitable for the task. Much later when language had come in place, this would be called an object. The concept existed long before the name came up.<sup>107</sup>

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<sup>107</sup> Consider Goethe "Den ebenn who begriffe fehlen da stelt zu rechten Zeit ein Wort sich ein. Think also of the meaning in Latin: ob-jectum, that what is being thrown in front of. As a matter of fact this particular meaning came

The scope of the window of time has to be taken in consideration. It is of utmost importance. The transition whereby a dynamic Gestalt figure got framed into a stable structure did not happen from one day to another. It took most probably an enormous span of time. Only between the findings in Lomekwi and those in Oldowan gorge there is already one million years and then to Acheul another million. It is necessary to be fully aware of this fact.

So in first instance some concrete manipulation on an implement very gradually took the form of a stable template which in a later stadium would become generalized into a means applicable over many different situations. At the core is a concrete implement, a means supporting manipulation. But, if means can be abstracted, removed from live as suggested in the second stage as mentioned earlier then the formation of an object as a perceptive cognitive scheme would never have had to occasion to take form. For experience the consequences are profound. Because objectification is the necessary condition for the experience of a world presenting itself as something over-there in front of us. An object is needed to be able to imagine *something* which can be commented on, which can provoke a declaration, which is present there to reflect upon, in the end to reflect upon oneself. If that some-*thing* does not exist then a setting in which an observer reflects *upon* what is present over there as if it was an object whatever the nature of it<sup>108</sup>, might not be possible at all. There would not be a god's eye perspective or the position of Archimedes, considering that exactly these seem our natural perspective.

With all this falling out of reach there would be nothing – no-thing – there to confront with, there would be no act of self initiated imagination, no representation, no making present anew. Resulting from this, not as a leftover but as the full scope of existence is a centric and fully engaged perspective, an entwinement, a coinciding with what from a declarative perspective would be called the world (out there). Actually world and organism would be experienced as one. The organism would find itself in the condition Wertheimer called “*Gemeinsammens Schicksals*”, a common fate, a unified fate.

These reductions of language, means and object result in an experience whereby the primary motivated dynamic conflates with what can be perceived and grasped as defined by the abilities of the body of the organism. This condition is easily called egocentric. However the term might be the right one, it should not be understood as an I-center conscious of itself, but as a unity encompassing all experience.

So far for an effort to depict what is must like be to find oneself in the condition labelled as the first world. “What is it like to be a bat?” Nagel asks in his famous article first published in 1974. He suggests that there is no answer to that question. Anyway no answer formulated from within a condition of a reflective consciousness. An answer sounding as “it is *xyz* to be a bat”. But the question itself is without sense, “ohne Sinn” as Frege would say. A bat does not take the stance of reflection. A bat only does what it is good in: being a bat. Without language, being in the world without means, primary motivated bat and world all in one. That is exactly the first world or the hypothetical initial condition.

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around the 17<sup>th</sup> century. Before that period what now is considered an object would have been called the subject, that what is thrown under us.

<sup>108</sup> Take for instance something dynamic as partying. It needs to be transformed to “the” party in order to be invited into it. Or take the cooperative act of hunting, it could not be planned and organized if it was not prepared or thought of as “the” hunt. It is not the case that declaration needs some event to be objectified, in reverse declaration follows from objectification, it would not be possible at all without it.

### **Rounding up**

The combined approach offers a glimpse on the way non human animals might experience existence. The motivating insight was that man once was a species among all other species. That man in that position must have shared a common life world. This principle at least implicitly present in Darwin's writings offers the stepping stone to sketch out what could be called a hypothetical initial condition.

The first element is about the organism experiencing himself and his environment as being one. The introduction of the primary motives giving direction and feeding the intensity, provide dynamic tension. Movement plays a central role.

From a very different angle, observations in the field of artificial intelligence and robotics, suggest that an organism in this condition is capable to far more than merely the execution of stimulus response chains. An approach as offered so far can be called positive as it refers to constructive elements. But there is also another pathway, which appropriately could be called negative. Because the aim is to omit all these competences and skills in which the human not only excels but undeniably sets him apart of all the other animals however close some of them once might have been.

This strategy in registering what is known, leaving aside what makes different, stressing the abilities of non human competences suggests an image of a hypothetical initial condition. It might be hypothetical it none the less is not completely without ground.

This then becomes the platform onto which under the pressure of the conditions of that time and place, new abilities, I would rather speak of skills, would have come into development.

Skills indeed, because the preferred basic methodological perspective focuses not on innate capacities but on the way an organism found particular ways to negotiate its niche under change. Negotiation, needless to say, has to do with handling, manipulation, action.



### 3. Hand and imagination

manipulation as the basic dynamic underlying displacement

*essay*

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## **Abstract**

The ability to provoke in the experience displacement in space and time can without much hesitation be seen as a cornerstone of what makes a hominin really human. The focus will be directed on characteristics within the reach of the public eye but significantly testify of a radical change in the interpretive view on the environment. The attention will be focussed on the material features themselves, the way they invite to manipulate and what all this unveils about a new way of negotiating the world. But all this could not be thought without taking the primordial role of the hands into account as the tangible first line interface onto the environment. The hands take an important part of the introduction, not in the status of introductory stepping stone but as the necessary condition for all further development.

This exposition takes the form of an essay allowing room for creative thought.

## **Preliminary**

In publications on the origin or on characteristics of language, it appears as a given no questions asked.

Take Andrew Smith “The controversy over the structure of early human language, and its subsequent transformation into modern language (...)” (in Arbib & Bickerton, 2010:99). Nothing seems to be said against the grain. The observation made might come as nitpicking.

Over time I developed sensitivity for expressions which at first glance seem quite natural. They quite often organize understanding in a particular way which after all is not natural.

Smith’s quote illustrates this strikingly. Language seems to be present either premature or full blown but present from the very first moment on without questioning. One might object that the subject is not only language but also early or protolanguage and, isn’t that the stepping stone suggesting an evolution starting from scratch? Indeed but observe what is getting suggested by Bickerton, an authority on language evolution. He refers to word like units with simple atomic meanings associated with basic pre-existing cognitive concepts. Wray even thinks in that stage of development of complex propositions (ibid:100). But simple or complex, units are presented as if they already exist. Question is where do these come from and why does one evolutionary branch seem to possess these and other species most akin even demonstrating similar use of implements, do not?

In a scenario like this there seems to be a period of absence of language and then all the sudden – even when presented as protolanguage – a period in which it is present. Where did it come from? Out of the blue or by genetic mutation? In the latter case there is no longer a problem. In spite of being outdated one might as well maintain Descartes’ option considering language as a gift from god enabling man to express the thoughts produced by reason.

However this subject might be very intriguing I am not looking for causal factors. The aim is to raise an understanding about the processes taking place prior to the condition as pictured by Bickerton. What brought a hominin from being collapsed and entangled with the event at hand into the condition pictured as protolanguage by Bickerton. What are the procedures and steps bringing that within reach?

If the execution of these procedures deserve the label language is a different matter altogether. I prefer the idea that particular skill most probably accidentally came into being and the usefulness of its effect promoted further development. At one time it reached such a degree of sophistication that a proper label got considered. The term language refers to a form of action in which the movement of the tongue (Latin: *lingua*) was involved. In that sense it comes down to a type of action.

Ingold scornful considers language taken as a (mental) faculty an invention of linguists (2002).

### **Useful quotes**

The quotes listed serve as relevant illustrations or as arguments provoking to be commented.

#### **1. Displacement: crossing the frontier**

I am not suggesting that protolanguage, at its birth, had the unlimited capacity for displacement that forms so salient a feature of language. But the emergence, at some specific time and place, of the first signals that did not refer explicitly to the here-and-now would have represented the crossing of a clearly marked frontier rather than a walk through a gradually changing landscape. (Arbib & Bickerton, 2010:170)

#### **2. Displacement: al-or-nothing**

Displacement, for instance — the capacity to refer to objects or events not physically present — is an all-or-nothing category, like marriage or imprisonment: you're either married or not, in jail or out of it, and signals either refer exclusively to the here-and-now or can go beyond it. (ibid:170)

#### **3. Wallace's problem**

Another crucial new feature was a departure from the direct linkage with evolutionary fitness that characterized all other communication systems. The communication system of each species represents something tailor-made to fit the adaptive needs of that particular species. It comprises just those signals that relate directly to the fitness of species members, and excludes any that don't contribute to such fitness. In language, no units in and of themselves relate in any way to evolutionary fitness; language as a whole may contribute to fitness, and words or sentences used in particular contexts on particular occasions may enhance fitness, but in the vast majority of circumstances they will bear no direct relation to it. (ibid:170)

#### **4. Animals not referring functionally**

But if signals with functional reference are seen as milestones along a road to language, the fact that no signal within the repertoire of the great apes exhibits functional reference becomes puzzling. If, on the other hand, animals simply choose signals that directly impact their fitness, several things become clearer. (ibid:172)

#### 5. The relevance of displacement questioned

It also becomes clear why non-human signals can't combine can't displace and so on. They can't do these things, not because the animals concerned lack the capacity to execute them, but because the signals themselves evolved for purposes that make combination, displacement etc. wholly irrelevant. The signals are responses to events or situations in real time that might impact positively or negatively on the fitness of an individual animal, (ibid:172)

#### 6. Asking the right question

To understand how protolanguage emerged, we should avoid the question, "How did protolanguage emerge?" Instead we should ask how, and under what selective pressures, human ancestors became able to move from signals linked with fitness-affecting events to signals whose main function was to transfer factual information that did not require an immediate response. (ibid:172)

#### 7. Some characteristics of full blown language

Open-endedness, creativity, combinability, displacement, symbolism were just some of the properties that had to be acquired. (ibid:172)

#### 8. Bees and ants and displacement

There is good reason to choose displacement as the first protolinguistic development, since it is already found in a handful of non-human systems, principally (so far) in those of bees and ants (ibid:173)

#### 9. The importance of the niche

I cannot overstress the need to take into account the ecological niches occupied by pre-human species; no-one should look at protolanguage before taking into account niche construction theory (ibid:174)

#### 10. Processes to combine already shared with other mammals

What was required for these tasks might in principle represent (or be derived from) either capacities shared with other animals but selected for novel purposes, or novel, purpose-built capacities unique to the human species. But the null hypothesis clearly is that given symbolic units to combine, the processes used to combine them were ones of a fairly general nature, already present in the genome and shared with other mammalian (and perhaps even avian) species. (Bickerton, D. 2009. *Biological foundations and origins of syntax*. The MIT Press. p.12)

#### 11. Merge and recursion, some task specific mechanism nothing to do with language

Merge involves recursion. It has been claimed in one widely cited paper (Hauser et al. 2002) that it does, and that recursion is unique to humans, requiring us to assume either a special mutation or the exaptation of some task-specific mechanism that predated—hence originally had nothing to do with—language. In linguistics, recursion is generally defined as the ability to insert one structure inside another of the same kind (Bickerton, 2009:6, *Biological foundations...*)



12. We submit that a distinction should be made between the faculty of language in the broad sense (FLB) and in the narrow sense (FLN). FLB includes a sensory-motor system, a conceptual-intentional system, and the computational mechanisms for recursion, providing the capacity to generate an infinite range of expressions from a finite set of elements. We hypothesize that FLN only includes recursion and is the only uniquely human component of the faculty of language. We further argue that FLN may have evolved for reasons other than language; hence comparative studies might look for evidence of such computations outside of the domain of communication (Hauser, Chomsky, Fitch. 2002. *The faculty of language: what is it, who has it, and how did it evolve?* Science – quote from the abstract)<sup>109</sup>

13. (...) he (Chomsky) describes the operation of merge as “an indispensable operation of a recursive system” (2001). Add bifurcation as described by Richard Kayne (1984) to it and furthermore the model of Chinese boxes that fit together (Calvin & Bickerton, 2000) and all this results in the core of that (minimalist) program (Hauser et al. 2002) (in J. Gilbert; *The Forgotten Transition*; 2018:105)

### The aim

The aim is to make clear the most fundamental building blocks and the dynamics involved in provoking an experience bearing the character of a displacement in space and time<sup>110</sup>. The quotes listed above might become helpful in contributing that endeavour. It is clear that this discussion is not about language in the first place. It is about the introduction of the ability to introduce an experience characterized by a displacement in space and time. Language is and will be mentioned only in so far characteristics from one and the other seem to be related or similar.

It is unclear to me why and how exactly this took place. But it is within reach to point out the changes such as the occurrence of object patterns which could not suggested without the stance of taking distance. It is possible to describe the characteristics, the functions and effects of these changes.

In quote 5 an important observation in that respect is offered “It also becomes clear why non-human signals can’t combine, can’t displace and so on. They can’t do these things, not because the animals concerned lack the capacity to execute them, but because the signals themselves evolved for purposes that make combination, displacement etc. wholly **irrelevant**. The signals are responses to events or situations in real time that might impact positively or negatively on **the fitness of an individual animal**, (...)” (in Arbib & Bickerton, 2010:172)

The signals expressed are functional in relation to the fitness of the animal; the characteristics of signals expressed by humans are irrelevant in that perspective.

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<sup>109</sup> Trained linguists will argue that there are many more characteristics involved in language. As explained in *The Forgotten Transition* (ref) the rules and operations underlying language can be distinguished into two groups: the basic mechanisms underpinning language as a human practice (merge, bifurcation, recursion) and local rules (for instance head first or last, verb or noun as dominant element) or dependencies having involved in the ordering of semantics (binding, empty categories, movement). In this contribution the focus is only on the basic mechanics.

<sup>110</sup> There are other terms in use. Tulving (1984) speaks of time travel, Hurford (2014) of offline representation and and Gärdenfors (2014) somewhat similar of detached representation.

The first part of this sentence can be accepted without reservation. Any organism strives for survival. The second part is in my opinion correct to some degree. Also human signals can underpin action in the perspective of survival. A massive number of the expressions uttered are indeed irrelevant in that respect. Important is that Bickerton draws the attention to the fact that non human animals don't "combine, displace and so on". Not in the sense that they could not make use of it but that these never come into being. Bluntly, these modes do not exist in the lives of these organisms.

Why do these exist in the lives of the animal called human?

That is the problem Alfred Russell Wallace struggled with (quote 3). The human animal seems to have abilities exceeding the needs related to survival.

But the question "why" does put us on the wrong leg. It hints in the direction of a reason, as if there necessarily must be a reason. The idea something popping up without any purposeful reason seems to be out of the question.

But why? Why should it be impossible that a species stumbled over some experience which proved to be useful? Not even useful at first sight but simply surprising. As in the case of an implement getting associated with the meaning of a particular occurrence; the presentation of that implement provoking an experience characterized by reference to some event out of the actual now and away from the local ground. This is what is meant by "displacement".

Bickerton observes that this not even completely new. Ants and bees offer a demonstration.

This illustration is most probably not appropriate. Ants are laying down a trail of chemicals, called stigmergy. This might be different for the behaviour of bees which might be based on genetic heritage or/and learning processes in which conditioning plays a central role, but I have to admit not being an expert in that matter. Clear is that the mentioned behaviour is direct while in the mode of displacement as seen in humans consideration is of importance.

This at the same time is the stepping stone into the basic and necessary condition enabling displacement as the human exhibits. Consideration; a perspective characterized by taking distance in relation to something; in short aboutness are the keywords. The question is how did it come into being and is there an instance where this perspective, this attitude can be observed? The how question can only be answered in speculative way which does not open a fruitful path to pursue this contribution. But "how" can also be understood in another sense, not gauging into the origin but about the context it might be emerging from. This brings us to the second part. The answer lies unconcealed: the tools brought forth by the hominin line which would evolve into the human species clearly express that feature. The application of corrections to a tool implies, stronger even: is synonymous with a taking distance. The tool being improved has to be looked upon in a way taken literally or considered if another more mental register is preferred. It has to be held at a distance inviting inspection. This condition might be designated as spatially organized perspective, in short spatial cognition.<sup>111</sup> It is a stance quite different to the incorporation as exhibited by other tool using animals. This is indeed the type of displacement referred to by Bickerton dealing with

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<sup>111</sup> Spatial cognition is defined as the ability to perceive spatial patterns, organize action in space, and understand spatial relationships (Wynn, T. & Coolidge F.L. 2016. Archaeological insights into hominin cognitive evolution. *Evolutionary Anthropology* 25:204.

proto language however as put in the preliminary remark I would not call this language, even be reluctant to call this protolanguage. Proposed is the option considering it a spin off effect from an occurrence in which a particular event got associated with an implement used in a particular action is preferred. It is in that setting indeed that particular characteristics of a Gestalt figure are becoming prominent and isolated giving rise to what becomes perceived as a clearly delineated unit.

In Western culture we are inclined to consider this as something substantive, something standing on its own, devoid of any context. But in order to understand its nature and function properly in spite the fact it appears sharply delineated may not be deprived of its context. That object perceived from a perspective of taking distance only obtains its delineated character embedded in a movement of mediated manipulation executed by an actor with his particular anatomical infrastructure. Even taken more broadly: from an all encompassing scene consisting of nothing else than sharply delineated objects all prone to manipulation.

As the result of some transition the world perceived changed a scene the perceiving organism collapsed with into a scene presented on some distance of manipulable entities.

By this the basic pattern is shown: mediated action, objects and the perception of a distance as an experience. This is the setting, the dynamic and the building blocks.

The study of the potential is important in two ways. First of all it enables to describe and to understand the opportunities emerging from this particular dynamic organisation. In second instance the object functioning as a second order stimulus opens the possibility to provoke displacement. As a provocative instance, in prospect one could also refer to a carrier of semantic payload. The point made is that the dynamics involved in the manipulation of objects are – being the carrier mentioned – the same underlying construction of global scene in which different displacement contents are getting manipulated. So studying the dynamics of action is at the same time exposing the dynamics involved in the manipulation of scenes of displacement. In Bickerton's terms it might be called the dynamics underlying protolanguage.

## Hands

Trying to sketch out the basic pattern as is the aim of this text, attention should go to the fact that the organisms in question do have and make use of ends of limbs that are able to grasp, hold and move whatever could be grasped, held and moved. Humans are hand centred in space<sup>112</sup>. The latter is not to be understood in a Euclidean<sup>113</sup> or Newtonian sense but sensory and motor defined. In Euclidean sense space is a novelty only existing in the thinking brought forth by the human kind. Space on the level of experience shared with species most akin and in so far this naming could already be used in that context comes down to the extent the eye can catch, the reach of locomotion and of the grasping hand in so far hands are present. So space is more a dimension of perception and of movement rather than an imaginative framework onto which orienting parameters can be set out.

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<sup>112</sup> Cfr. N.P. Holmes in Z. Radman, 2013:57-70

<sup>113</sup> Wynn & Coolidge, 2016 are premature in relating spatial cognition to Euclidean spatial thinking. Because that type of understanding is only possible much later when the use of implements as secondary stimuli provoking displacement and thus projection got introduced. Silverman (1992, 2000) suggested that an Euclidean framed awareness could be based in the division of labour of hunter gatherers.

The fact being equipped with hands is so trivial that it is overlooked altogether. However the importance of the logic of the hands cannot be appreciated enough. It could not have occurred in animals with hooves or in absence of limbs.

The human way of negotiating the world does not come out of the blue, it is not neutral nor independent and objective. It is harnessed by the particularities of the body. The hands provide the interface where the negotiation of the environment takes place<sup>114</sup>. It sets and specifies the blueprint of the development at least of motor directedness, perceptual focus and cognitive patterns and strategies. In short, the importance of the type of embodiment is paramount.<sup>115</sup>

It could be noticed that the position and contribution has been observed but apart of the fact that the hands fulfil a central role in the existence of the human, is it well worth all the fuzz?

This misses the point completely.

Being the actual first line interface the hand centred orientation is far reaching. It implies that all interventions onto the world are framed within the logic of the abilities of the hands in cooperation<sup>116</sup>. This easily escapes us because it is our very nature, the way we approach the environment. It is like the body of water for the fish. Before being characterized as “speaking”, for anything humans are manipulating beings. The following could help. What do all living creatures have in common? Being primary motivated, i.e. maintaining life and procreation<sup>117</sup>. Several groups of species however differ in the way that motivation is getting realized. They differ in the way the burdens laid upon by the particular environmental conditions are negotiated. A bird has wings and a beak. It moves by flying and feeds by using the beak<sup>118</sup>. That is the systematic underlying its existence. That logic to use an inappropriate word is different for different types such as a predator like in the case of a tiger, a grazer like an antelope, the crocodile, the snake etc. What is that basic pattern underlying negotiating the environment for the creature which in the end will be called human? For the species most akin the hands have a twofold function. Chimps are knuckle walkers so hands are used to move around. But they are also used to for

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<sup>114</sup> In its own context not to be confused with what is explained here. Following Anaxagoras Aristotle considered the hand the tool of tools. But he also considered the hand as the product of the intellect and not the intellect brought forth by the possession of hands (De Anima, 432a).

<sup>115</sup> The following contrasting situation illustrates the importance. For a grazer the head is directed to the ground, the lips pulling the grass, the eyes directed sideways alert for eventual dangers. The world experienced is a conglomerate of ground directedness, grass and caution. Something similar is the case for the hominin being bipedal and provided with hands to grasp but directed in a very different sense.

Further the following are of relevance in relation to the hand as channel of approaching the world: Radman Z. (ed), 2013, The hand an organ of the mind; Napier, J. 1962, The evolution of the hand, The Scientific American; Cagli & Coraggio, 2008, What the draughtsman's hand tells the draughtsman's eye, International Journal of Pattern Recognition and Artificial Intelligence; Tocheri et al. 2008, The evolutionary history of the hominin hand (...), Journal Anatomy; Marzke M.W., 1992, Evolutionary development of the human thumb, Hand Clinics; Almécija & Sherwood, 2017, Hands, brains and precision grips, Researchgate.

<sup>116</sup> The trajectory of the human evolution is brought forth by the use of hands; it does not as a ghost out of Allahadin's lamp emerge from the workings of the neural tissue. Compare with Trivers observing that the brain is functional for surviving not in the task of producing knowledge (2002).

<sup>117</sup> Cfr. Darwin, The Origins..., recapitulation and conclusion “(...) all been produced by laws acting around us (...) growth with reproduction”

<sup>118</sup> It is more than often said that man is special. But what to think of birds able to fly? Isn't that not even more surprising?

instance hold on the branches of trees, grasp fruit or a prey, hold the offspring, in some cases even handle an action supporting implement. For what would become the human line the function of locomotion has been divorced of the function of holding and grasping. Locomotion brings where the food is, the hands specialize in handling it. This might be an all too simple illustration but it comes down to the fact that main functions such as locomotion and manipulation are getting divorced and that being the case they specialize along their track. The upright walking can be considered a specialization, the same goes for the applications of the hands. They specialize in executing interventions. In summery, they are the first line specialists in the act of negotiation. But that has a consequence of major magnitude. It actually means that all further refinements originate within that framework and cannot do anything else then follow the "logic" of it.<sup>119</sup>

The suggestion is that in the further development two stages can be discerned as will be explained later. In first instance the taking form of a perceptive configuration which will adapt to and fit the act of manipulation and secondly the use of the form given artefact as a stimulus of second order thus provoking displacements in time and space in the experience.

On closer inspection and way ahead of what has to come, how difficult is it to recognize in the act of speaking the manipulation of objects with the purpose of provoking a certain effect? Is it too bold to state that this is an example of negotiation?

At the risk of repeating myself this pattern is so low level or first line that is goes unnoticed, moreover veiled by a historical heritage that it is all about the ultimate truth far away from vulgar manipulations.

In short whatever the semantic discourse the human enrobes his existence in, his way of behaving, his way of being in the world can from a technical point of view be understood as a form of mediated manipulation, the logic of the hands providing the overall framework.<sup>120</sup>

### **What are hands used for**

What were the hands used for? To grasp branches while moving in the canopies, to grasp food, to hold the offspring, occasionally pick up a nodule and use it as a hammer to break the shell of a nut.

Hands come in pairs doing different things, a division of labour one performing a holding task, the other some action onto what is held.

Apes show a hand lateral preference or dominance on the level of the individual while in the human species for 85% the left hand is taking the holding function while the right acts. According to Uomini (2009) the evidence suggests that this may have emerged through the social transmission of increasingly complex, bimanually differentiated, tool using activities.

However remarkable it probably diverts the attention into the wrong direction. We should focus at the fact that the use of action supporting implements is not a human prerogative. Some of the closest relatives do. There is a common base. This is also what Bickerton refers to when commenting on language. This also can be applied on displacement which will become discussed later. "What was required for these

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<sup>119</sup> The automobile whatever the actual degree of sophistication could only be developed within the logic of the abilities provided by the introduction of the wheel.

<sup>120</sup> Let us burry the picture of the human provided with special seemingly esoteric "mental" gifts and try to understand behaviour as a particular motor based way of negotiating the world.

tasks might in principle represent (or be derived from) either capacities shared with other animals but selected for novel purposes, or novel, purpose-built capacities unique to the human species. But the null hypothesis clearly is that given symbolic units to combine, the processes used to combine them were ones of a fairly general nature, already present in the genome and shared with other mammalian.” (2009:12)

The point made is the hominin and the line which eventually will become the human species share the basic conditions. This in some cases even goes for the use of tools.

### **Using implements also occurs in other animals**

Capacities shared with other animals provide the most basic layer. That seems obvious.

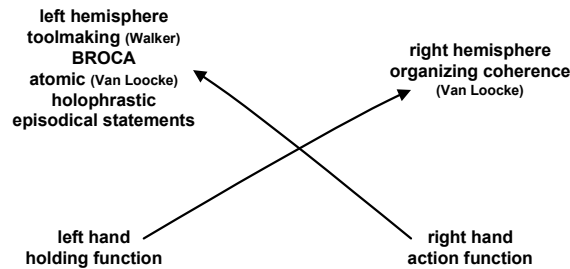
On top developed novel purpose built capacities. Question is to what purpose?

Could that be language directly as Bickerton seems to suggest be it via an introductory phase of protolanguage? Or could it be displacement directly? Or what about the suggestion that the novelty developed in the context of something else and displacement came into being as an accidental spin-off?

That suggestion leads me to Alan Walker in “The wisdom of the bones”. He notes that results obtained from modern techniques used to explore brain activity (specifically positron emission tomography, or PET) show that the area of the cortex surrounding Broca is also related to manipulation of the **right** hand. This means that the development of this area in the first humans was an adaptation related not to speech, but to dressing stone as a candidate for that something else mentioned (in Arsuaga & Martinez, 1998:242). The reference in this quote made to the function of the right triggers another thought. I realize that I am jumping rather haphazard but allow me to deal with this first and then return to the basic building blocks and dynamics.

The move made now is somewhat similar to reverse engineering because the following quote is about language as a final condition in the phylogeny but it may as well be relevant for motor patterns (in an earlier stage). “The statements formulated from the left part of the brain have mostly an ‘atomic’ character. They depict what is happening here and now in a few evident sentences. The left part seems not to be able to produce a coherent narration. The right brain part however seems to have codes of *a not lingual nature* (stress added) at its disposition, allowing it to organize the atomic sentences into a coherent history. So, producing a coherent narration seems to imply more than the linguistic centres situated in the left brain part.” (Van Loocke, 2008:436) The left part of the brain is related to the right hand. What is called atomic referring to here and now scenes might on the level of semantics be called holophrastic. Both schemes joined provide a striking pattern.

The right hand engaged in meaningful single units corresponds with holophrastic statements as the content of the left hemisphere. The left hand is occupied in the holding (together) position and is related to the right hemisphere which is able to provide coherence.



This scheme could be significant for a theory of language in which the motor abilities of the hand(s) play a central role. In that sense quotes 11 and 12 might be of relevance “ (...) recursion is unique to humans, requiring us to assume either a special mutation or the exaptation of some task-specific mechanism that predated—*hence originally had nothing to do with—language.*” (stress added) And “We hypothesize that FLN<sup>121</sup> only includes recursion and is the only uniquely human component of the faculty of language. We further argue that FLN may have evolved for reasons other than language hence comparative studies might look for evidence of such computations outside of the domain of communication (Hauser, Chomsky, Fitch. 2002).<sup>122</sup>

Accepting the initial idea that man originates as a hominin then unless a divine intervention or a mutation is assumed, the most plausible answer is that an already existing strategy must have provided the steppingstone. As Francois Jacob states evolution is not as much revolution but tinkering with already existing capacities (Science, 1977, vol. 196, nr 4295).

Let us briefly return to the scheme above anticipating on what will be coming when referring to meaning by association. The scheme implies two levels. In the first items are held and manipulated with the respective hands fulfilling a particular function. The second layer refers to semantic contents of a holophrastic nature organized and driven by the same dynamic division of roles. Thus both are at the same time different and connected. The peculiar fact is that the material implements are getting associated to the semantic content such that manipulation of the first implies manipulation of the latter (bottom up). This in its own right is already a remarkable fact deserving all attention. But this is not the end of the story. As the semantic content gives rise to a particular experience, both actually being synonymous, that experience in turn can drive the manipulation of material implements (top down). So once a manipulation of that type fired up the dynamic changed into an endless driven feedback circle.

However anticipation on what has to come, it seems the right time have it introduced.

<sup>121</sup> FLN, faculty of language in narrow sense.

<sup>122</sup> From the sixties onwards Chomsky made a dominant mark on the study of linguistics. It seemed for many years as if there was no other approach than his flavour of a universal grammar (transcendental transformation grammar) be it ever in flux, an ever changing theory in progress. There were and are however other schools up and running. Think of the cognitive grammar proposed by Langacker or the theory of mental spaces by Fauconnier. I have been greatly influenced by the ideas on projection as a determining factor in semantics as formulated by Lakoff and Johnson. For an excellent overview on the history of linguistics: Seuren, A.M. 1998. Western Linguistics, a historical introduction. Blackwell.

### **The basic patterns guiding behaviour**

Coming back on the factors responsible for framing the way the environment is getting negotiated the question is what the logic of manipulation might be. What are the basic patterns guiding behaviour? A few steps into that development will be suggested.

#### **First step: primary motivated meaning**

At the lowest level primary motives are providing meaning. Being the same for any creature it is not a criterion allowing discrimination between abilities of different species. The communality should anyway be kept in mind as the omnipresent meaning giving motor. The organism, any organism is not an idle instance; it is driven in a meaningful way from the very beginning. It would not be wrong to say that life and meaning are two different terms referring to the same.<sup>123</sup>

#### **Second step: the influence of the hands on the formation of meaning**

For the **second** step it is obvious that the mode in which the burdens of the environment are going to be tackled is determined by the bodily abilities, in short embodiment. The difference in embodiment among species determines the way a particular world will be construed and thus become experienced. It will not be difficult to accept that the world of a bird differs drastically from that of a reptile. Oddly enough this insight seems to be lost in the case of the human. The idea tacitly and persistently lives that the human enjoys an objective and transparent perspective outside the realm of embodiment. But what good reason could there be to accept that conviction, why should the human be different in that respect?<sup>124</sup> Concluding that here man is getting approached in the same way as any other species.

From that perspective the hands as first line if not exclusive interface are of decisive importance.<sup>125</sup> They offer a particular form and abilities bringing forth proper strategies or ways of dealing with aspects of the environment. The environment perceived as problem got in the first instance fired up but the primary motivation. But how this can be tackled can only be defined by the embodiment - in extremis the joined contribution of the hands; hence the expressed conviction that the hands are of decisive importance. Therefore the focus on manipulation opens the major perspective onto what is around. This is providing the all determining blueprint of, the ultimate baseline for what will follow in the further course of the development.

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<sup>123</sup> In that sense the question into the meaning of life is quite weird. It expresses a duality between something existing in its own right on the one hand which on the other is looking for meaning as if it is something absent altogether. That question is on sensible from the condition where composing discourses or scenarios became possible. To that end imaginative displacement in space and time is a necessary condition.

<sup>124</sup> Plato picturing a realm of ideas as the forms of ultimate truth offers the most telling version which has left its footprint on the history to follow. As Alfred North Whitehead observed, the history of Western philosophy is a footnote to Plato. Plato's version however is nothing else then one of the possible answers on the question that stamped Greek and hence all following Western thinking; what is the nature of that what is (unchangeable)?

<sup>125</sup> This is so basic that the terms manipulation and handling, both referring to the contribution by the hands, is used in the most general sense of exerting any kind of influence onto something else.



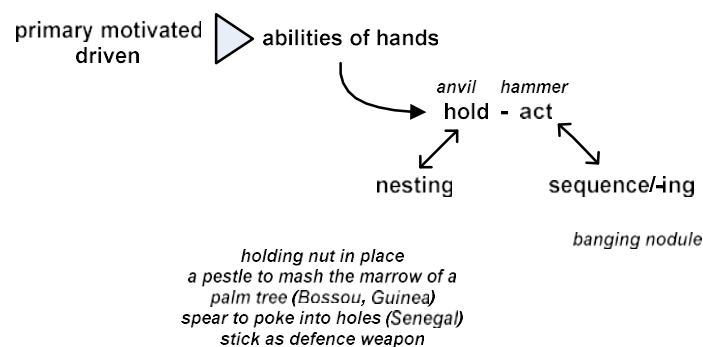
The importance of this might become crystal clear when contrasted with the mainstream idea that the human is foremost characterized by his mental capacities suggesting that the body is some kind of subordinate tool, an instrument to realize the higher capacities. That idea has been put forward by Aristotle. But Wells was right when he wrote in “The War of the Worlds” that the hand was the teacher and agent of the brain.<sup>126</sup> It is the hand indeed moulding the world we access in a definite way.

It can be argued that it is at least equally true that mind goes over body as by postponing the satisfaction of an urgent need. I will not go into the problematic character of the concept of “mind”, accept its common sense meaning for the moment. What is meant here and also can be deduced from Well’s quote is that the form of and the operations coming forth from the body are primordial constitutive in any sense. They provide irrefutably the blueprint in which framework all development to follow could come into being. But indeed within that frame skills often called mental in kind, can be developed which can engage into actions going against the rules the blueprint itself as by mentally deciding to go on hunger strike. But this capacity to make that decision could ultimately only come into being within that very framework making this opportunity possible.

That is the second step.

### The third layer: the use of implements

This too does not emerge from a neutral background but shows a particular and thus meaningful ordering in space and time. One hand holds while the other acts. It implies a division of tasks. Holding and acting takes place in a particular order: in so far both hands are involved there is no action executed before holding but the other way around. Further actions are performed in consecutive steps. Holding expresses yet another relation. It is a mode of nesting one item in the other, boxes into boxes. Might this be the stepping stone into recursion?<sup>127</sup>



<sup>126</sup> Mentioned by Holmes in Radman (2013:70)

<sup>127</sup> According to Everett (2005) the Pirahã people living in the Amazon region do not expose recursion in the use of their language. This might indeed be considered the case when language is seen as divorced from the speaker. But taking lingual elements as material units into account the speaker can be considered the holder of material elements and so expose the relation of some thing or instance holding something else.

Further in the FNL Chomsky observes that this might well be the only characteristic and on top of that developed in a context outside the domain of communication (quotes 12,13)

This is more than a dumb scheme restricted to an application which only can be repeated over and over again.

Besides, the Cartesian suggestion that animals are automatons executing reaction in a mechanical way is flawed. This became convincingly clear by animals solving complicated contraptions in lab settings. As Shettleworth testifies quite simple processes having nothing to do with discursive form of reasoning are able to cope complex problems (2010). That is getting confirmed by research in robotics and artificial intelligence (Moravec, 1988, 1998)<sup>128</sup>. So this scheme has more in store.

The following observations are relevant.

Firstly this scheme is applicable on non-human animals too in so far they dispose of hands. Secondly the abilities opened by this coincidence are particular in respect to the global strategies in negotiating the world. As such they are to be discerned from these of grazing animals, strategies applied by avian animals and of these of animals not having protruding limbs. It is a particular way of dealing with the challenges emerging on the borderline of primary motives and what is environmental at hand. Thirdly the implements used by non human animals are simple, not or hardly modified, produced on the spot of action or nearby and aimed at one particular task.

There is yet another observation of utmost importance. In spite of the fact that the line which ultimately would bring forth the human species is akin to hominidae implying that this development starts with the same abilities on the level of cognition and manipulation, the implements used in action at some point testify of a type of adaptation<sup>129</sup> which is extraordinary to say the least. It reaches much further than a Caledonian crow for instance producing a hook tool.<sup>130</sup>

In short, it is unknown what exactly took place but considering that no miraculous intervention took place, the conclusion is obvious: something has changed in particular in relation to the way the environment is getting appreciated. The question is “changed in what sense?”

The argument suggested goes as follows.

The artefacts found in the field by paleo-anthropologists and these used by apes are indeed different but most important both provide the corpus of tangible material prone to observation. These developed in the line which would end in the human could not exist in the form they are without a behavioural, perceptive and cognitive complement. Object and complement are like hand in glove. With that relation in mind the changes observed in the object at hand inevitably testify of changes in the complementary dimension. From this follows that the tailoring of a flint nodule into the form found in for instance Olorgesailie<sup>131</sup> requires a particular perspective, a stance of consideration for which there are no signs in

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<sup>128</sup> Maybe a step too far “Simple heuristics that make us smart”, (Gigerenzer & Toth, 1999, Oxford University Press) illustrates the power of rather intuitive approaches (in contrast to these guided by the principles of logical ratio).

<sup>129</sup> Cfr. Marzke (1992); Almeceja & Sherwood (2017).

<sup>130</sup> An excellent book on the use of tools by animals, Shumaker, Walkup and Beck, 2011, Animal Tool Behavior; Oxford.

<sup>131</sup> Paleolithic archaeological site in the Eastern Rift valley, Southern Kenya. The form is that of an Acheul hand axe, an already sophisticated form but chosen here because earlier types such as Oldovai are prone for discussion about being a real modified tool or not.

other animals making use of nodules. That stance suggests the holding of the implement to be modified to be held by the agent in front of himself.<sup>132</sup> It encompasses in one flow the gesture, the gaze and the experience of distance in relation to what is in front of.<sup>133</sup> This is radically different in relation to the intertwinement of an organism engaged into what is of relevance, being centric in the experience of a condition of unity. Running ahead again this is the point of germination for what much later will be called “aboutness”. I do not agree with Bickerton in the fifth quote expressing that non-human animals can in principle provoke displacement but they don’t do it because it is irrelevant in the light of fitness. For displacement to be elicited a readiness to a perspective of distance should be present but that is excluded where full engagement in an event is in play. There is no perspective of distance in there. Distance in that case is to be understood as an attitude of consideration, not as the gap between marks in a geometrical frame of reference. Furthermore, as Bickerton explains in quote two: displacement is or is not and this allows to add that the observations of the tools used by non-human animals it clearly is not.

This is the exponential sign for **the third step**.

Before going on, observe that the argument did not take the form of “it happened in order to...”<sup>134</sup> but “that experience must have been there otherwise the modifications observed could never have been realized”. The first form implies teleology, the second is a deduction.

### **Difference in perspective, the result of development**

Drawing attention to a difference in perspective in spite of the fact that the species involved are family suggests that this is a matter of development; it is not a natural given condition<sup>135</sup>. This is getting confirmed by studies in developmental psychology, physiology of seeing and reports on the experience of blind people gaining the faculty of sight. These made unequivocally clear that recognizing and identifying meaningful entities in the environment is the result of experience based and learned processes.<sup>136</sup> These studies provide indications that what is seen as meaningful is the product of needs and abilities of the physiology in relation to what – to be understood as ‘chaos’ – is at hand ‘out there’. This is not only a matter of semantics but also of structure. Semantics refers to the difference between a carrot and an egg as

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<sup>132</sup> It reminds of Hegel’s expression “*fur sich*”, literally to be understood as holding in front of himself.

<sup>133</sup> It is a particularity of the Western analytic view to divide a scene in different substantive elements each to be considered in its own right whereas in the practice of life the viewing eye and reaching hand are one.

<sup>134</sup> As in Holloway (1992) explaining that language *had to come into being* as an answer to an ever more becoming complex social organization.

<sup>135</sup> The qualification “natural” needs to be specified. It is not referring to the initial condition the human once shared with the other great apes. It has neither to do with nature understood as the raw condition untouched by human intervention. Natural here refers to a condition *attributed* by the human, the quasi romantic idea of virgin earth existing in the appreciation of the human, some condition having affinity with the sublime. In its extreme it is nature as often thought by new age adepts or back to earth defenders of natural grown food

<sup>136</sup> Riesen, 1950; Ackroyd et al. 1974/2007; Foley, 1985; Degenaar, 1996; Fine et al. 2003; Gregory, 2003; Jacob & Jeannerod, 2003; Kimchi et al. 2003; Ostrovsky et al. 2009; Held et al. 2011; Huber et al. 2015; Gordon, I.E., 2004, Slater et al. 1990; Uttal et al. 2000; Wertheimer, 1912. Kellman in Gelman 1996 to name some important sources.

food for instance<sup>137</sup>. Concerning structure the form tools used by humans provide some indications. They are in a sense similar to these used of animals but in another sense quite different.

### **Different in what respect?**

As mentioned the primary motives are the very first factors determining what in the chaotic input is of relevance. One does not have to look out<sup>138</sup> for what is of importance; it is selected out and imposed by the basic needs. Being hungry directs the focus on food. The structure or the form it takes can be described in terms of Gestalt-psychology. This approach is not imposed by theoretical presuppositions but is a model which in origin resulted out of research into the basic elements in perception. Form and content can be described as that what is considered being relevant to protrude absorbing all attention while what is of no or less importance diffuses into the background. In short, what is salient becomes figure characterized by relevance, fluency and dynamics. The posture of the cat having a mouse in its visual field is one of total concentration, entanglement even. This is no doubt the optimal organization in order to capture the prey. It is however very different to the posture of evaluating consideration needed to apply the appropriate modifications on a silex tool in order to improve its efficiency.

This short impression offers a glimpse into the characteristics which might be attributed to the joint cooperation of eye and hand. The drive bringing forward what is relevant remains unchanged but the focus is directed to formal characteristics affordant in relation to the form of and the reach of the motor abilities of the hand(s).<sup>139</sup>

Edges become clearly delineated fitting the grasping movement, the holding and the active hand.<sup>140</sup>

It forces the perception in a particular direction reorganizing the setting and configuration of what is perceived. What is of relevance is retained on the foreground, the basic Gestalt principle remains but it is getting organized in terms or rather forms of manipulable units prone to be grasped. What is of importance in respect of the latter draws the attention becomes salient and delineates a graspable unit.

A process of ungrounding<sup>141</sup> takes place in two directions. On the one hand the graspable form is becoming cut out, clearly demarcated from whatever is surrounding. It is becoming distinct, a

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<sup>137</sup> Or take a grub, for most of the Europeans these appear disgusting while for inhabitants of the rainforest they are appreciated as a delicacy.

<sup>138</sup> The inclination to look out for meaning is a human characteristic. Animals do not look out for meaning in that sense. In the case of hominin it is an anachronism, in the case of animals is out of context altogether.

<sup>139</sup> This is certainly the moment to refer again to the book edited by Zdravko Radman (2013); to the work of E. Marzke 1992; Almeceja & Sherwood 2017; John Napier 1962; Tocheri et al. 2008 and many others. Furthermore the stress lies on the relation hand, eye and affordant element. The forms referred to grow out of that relation and should not be confused with geons part of the model suggested by Irving Biederman (recognition by components).

<sup>140</sup> This is a superficial description of the change in perspective elaborated in other contributions such as in *The Forgotten Transition*; *Beyond the material engagement theory*; *Building cognition, objectification as linchpin*.

<sup>141</sup> "In the model developed by MacWhinney (1999a), this first level of perspective taking involves the shift from direct perception and action to stored mental representations of perceptions and actions. This is the first step in what I call the "ungrounding" of cognition" (in Givon & Mall, 2002:239) The term "grounding" needs however some elaboration. This condition could also be called "heteronomous determined". The organism is exclusively triggered by endogenous or exogenous factors. Being hungry for instance drives to look for food and eat. It cannot prefer not to

denomination derived from the Latin “distare” implying distinction and what is distinct from something else is also at a distance from it. The appreciations “distinct” and “at a distance” are actually one and the same but viewed from a different angle. The form is becoming distinct and at a distance from similar forms and from the grasping hand. So it could indeed be said that the distinction unfolds in two directions: in relation to similar elements and in relation to the perceiving and acting instance. What until then was experienced as one becomes divided, expressing distinction and distance. In the previous period the *usefulness* of the implement taken in and becoming one with the hand was the only criterion driving to make use of the implement. Usefulness remains the bottom line drive - why should an implement being recruit otherwise - but the attention for the characteristics of the form gains ever more relevance and becomes a criterion in its own right. The characteristics remain functions of the use but transcend the status of purely embodied affordances. One cannot but speculate that this is most probably a long term development even repeatedly disappeared in forgetfulness to reappear later in a different location. Once this organizing perceptive template is in place it does not focus on and select one single configuration of apt characteristics. It becomes like an overall filtering template perceiving the scene in terms of these characteristics. In that perspective different candidates seem to appear. Think of an affordant nodule on the bank of the river. It does not present itself in isolation as if it was the only affordant nodule in the world but it is one amongst several similar nodules more or less or equally affordant in relation to the formal criterion.

The term object<sup>142</sup> may be premature at this point but if used then it could be said that different units profile themselves and confront the agent driving him into a choice. Again it should not be understood in the sense of a mental capacity of being able to make choices<sup>143</sup> but as a condition teasing the agent to try out, evaluate in a sense, and make a choice in a rather natural way.

Caution once again, this explanation is not to be taken teleological i.e. ‘this’ took place so that the result could be (...) <sup>144</sup> but the archaeological findings of hand axes are such that something like this must have been the case. Being emerged in an event could not have provided the suitable environment for

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eat. One could argue that some animals like squirrels are stocking up for the winter but this too is a condition which can not be chosen neither neglected. There is no decision taking in play. The qualification free will is not appropriate because not existing at all. As such the organism is embedded and driven blindly by conditions or it is fully grounded.

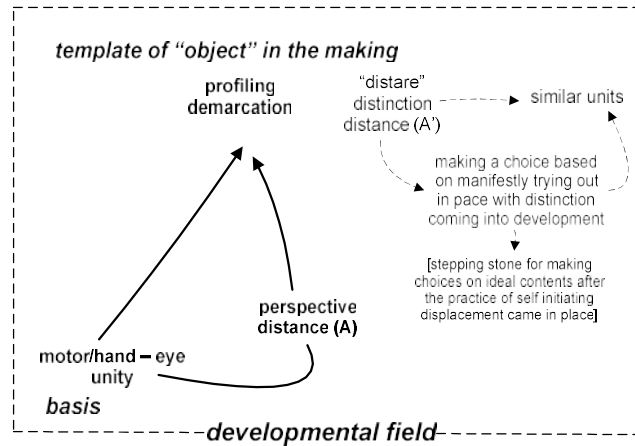
Evidently the opposite condition is being ungrounded, being able to make choices. But expressing it this way implies a caveat. It is a striking illustration of the Western tendency of thinking in terms of dualities: or this or that but not both. In that sense it comes down to being heteronymous determined or making decision and choices in an autonomous way. It seems as if there must have been a tipping point. This is however not the case. The behaviour of humans too is to a considerable degree determined in an heteronymous way. Humans are taken and driven by hunger too but in the end they are able to make a choice: eating, postponing or even refusing to look for food. So on top of the basic condition in some cases it is possible to make a choice.

<sup>142</sup> From the Latin “obiectum” i.e. things put before (the senses)

<sup>143</sup> Think of a chimpanzee finding different fruits within reach. Picking one is not based on some mental evaluation but on low level parameters such as the attractiveness or of what is most close, even tilting into the inclination to grasp as many as the hands can manage. There is a tipping point in being driven rather blindly by the needs or seduction and of making an intuitive choice.

<sup>144</sup> In the sense Ralph Holloway did when dealing with language. He suggests that language had to emerge because the social organization became thus complex that it was needed. (Holloway, 1969)

operations to bring forth an artefact like an Acheul hand axe. Being able to distinguish sharply is a necessary prerequisite.

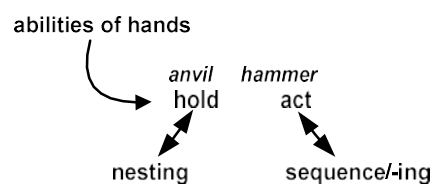


The transition of the condition called centric into a perceived set of distinguishable and graspable units is of pivotal importance for the further development.

### The effect on the basic logic

In the perception of the cat the prey is part of its centric existence (Plessner, 1975: chapter 7), a non-duality (Simms, 2008:2)<sup>145</sup>. The characteristics radiating of the human tools expose a very different setting: clearly delineated units prone for manipulation. This being prone implies a stance of consideration, of observation and evaluation from a distance.

Recall the basic scheme



..the units related to the act of holding and of acting become seen discerned from one another. Once again this is referring to a transition spread over an extremely large window of time.

<sup>145</sup> Plessner offers a striking description. Also Piaget (1929) mentions this condition referring to a protoplasmic consciousness but I do not prefer this because of the suggested relation to consciousness which to me is not appropriate in the phase yet. On the development of learning to see/interpret the environment in a meaningful way, Kellman in Gelman et al. (1996)

What does that being able to discriminate mean for the negotiation of the Umwelt? In pondering on this one has to be aware of the seducing tendency to explain why it all happened. The Western culture is pre-programmed to look for causes. But that is not the point here. The attention should be directed onto the obvious fact that it happened as testified by the form of the artefacts founds and, on what these expose as possibilities until then not available. In short **the focus is on the characteristics of the changes**, on the functions and the effects of it.

### **The transition from being bound blindly completely to the ability to make a choice**

What clearly changed and probably is of utmost importance is that the hominin in question **no longer** seems to be **bound blindly** to the situation at hand, the behavioural response dictated by genetics and or instinct. This is once again not an assumption out of the blue but is getting testified by the tools unearthed. They could not have been produced within a condition of being bound.

As mentioned earlier under note 31 the concept of that condition too deserves some clarification. I am aware of the fact that I may repeat myself but these concepts and tacit understandings are so pervasive and resistant that a constant alertness is justified. As Westerners we are not only trying to understand situations strictly in terms of cause and effect but also in terms of dualities. In that sense being bound seems to be positioned against being free as complement, being able to choose between alternatives. But in what is the case here genetics and learning processes do not disappear when a new situation emerges. They remain influential and so the new situation is not a complement annihilating the previous factors but an extra possibility.

This possibility is not a mysterious faculty appearing out of the nowhere. It is a plain and simple effect of – as suggested the very slow - introduction of delineating the formal characteristics going with a growing proficiency in manipulating implements supporting action. In that transition the perspective of looking at something as if it was placed at a distance, becoming detached or divorced of that centric experienced condition, dawns. Again all this is not coming as a bolt of lightning but is getting produced by tentative experimentation of the exploring hands. The ability of making a choice between alternatives which might come to us as a radical tilting point is therefore not a mysterious condition coming out of nowhere but is brought forth by the accidental ability of experimentation going hand in hand with the changing perspective of distinguishing different forms apparently perceived at a distance (scheme 'developmental field'). The agent is not all the sudden presented with a mysterious faculty; he is making use of faculties already present.

Most probably the conditions of the niche changed driving groups of hominin into bipedalism as a consequence in turn liberating the fore limbs of the burden of locomotion at the same time reorienting the perspective on the environment.<sup>146</sup> This might have resulted into the progressive discrimination of what fitted the hand in the light of some action to be performed, a discrimination of which a stance of growing distance taking was part of. However plausible this might come, it is of course no more than speculation.

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<sup>146</sup> Think of penicillin. No one intentionally invented it. The conditions were right and the human researcher forgot to put some tray with a culture in a safe place. The conditions and the human action resulted in a not intended but useful result. Discussed in this text has nothing to do with inventions of medicine but what I want to make clear is the occurrence of useful effects from out quite simple changing circumstances.

As said what counts are the observable signs demonstrating new characteristics going with changed ways of handling, seeing and appreciating.

Being able to **discern different entities** in contrast to the experience of collapsing with the event of the moment exposes room to try out. It is not an opening to try out in a non-committal way, it is a condition of affordance. Like a cup invites to receive hence the term recipient, the condition invites even pulls the agent into the act of exploring what is at hand. Take the Acheul handaxe<sup>147</sup>; it is not a natural force-fed necessity. It cannot be anything else than the product of trying out and making choices from out a perspective of tangible evaluation. The label 'consideration' is at this point all too strong referring to a mental inclination. It has to be seen on the level of the tangible. It is all about actions in line with what hands able to grasp allow. That does not suggest an unlimited freedom appearing out of the blue as a mysterious ability. It comes down to possibilities confined by what hands can do.

A glimpse on the ability of freedom is a risky suggestion because it tacitly becomes understood in an absolute sense. This probably is a heritage of Plato's ideals, instances with a type of esoteric qualities, heavenly, idle and endless. In that sense "freedom" is shrouded in esoteric veils. But on closer inspection any type of freedom does come down in finding a set of possibilities until then not existent within reach. In this case it builds on existing abilities such different types of action distributed over the two hands, the particular distribution of tasks and the particular orderings consecutive actions are executed.

It will be obvious that being able to discern distinct configurations – I hesitate to use the term "objects" already - will lift the structure of holding something(s) to a new level. Remind that the terms distinct and distance are related to the Latin "distare", meaning standing apart.

### **The minimal program as a relevant approach**

However this contribution is not about language the following quote (12) might be of some service:

- a) "Faculty of Language Broad (FLB) includes a sensory-motor system, a conceptual-intentional system, and the computational mechanisms for recursion, providing the capacity to generate an infinite range of expressions from a finite set of elements."
- b) "We hypothesize that Faculty of Language Narrow only includes recursion and is the only uniquely human component of the faculty of language." and
- c) "We further argue that FLN may have evolved for reasons other than language"<sup>148</sup>

What is the meaning of this?

In first instance the authors relate the faculty of language to a sensory-motor and a conceptual system, which is a perspective very similar to what is defended in this paper.<sup>149</sup> Pointing out recursion as the only human component is prone for discussion. On the one hand by considering it as such the exceptional

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<sup>147</sup> Agreed this is sophisticated form produced long time after the initial steps onto that path of development, but it has been chosen as illustration because its degree of sophistication and standardization offers a clear demonstration of what is meant.

<sup>148</sup> Hauser, Chomsky & Fitch. 2002. The faculty of language: what is it, who has it and how did it evolve? Science.

<sup>149</sup> Taking the history of Chomsky's models into consideration, this is a quite remarkable point of view.



importance of it is becoming stressed. But on the other hand I think recursion can in its primary form be observed in the act of holding an implement, it is actually mirroring a motor action.<sup>150</sup>

The point to be made is that spite of the fact that recursion can be observed in apes handling tools, the human being able to discern discrete units to hold and combine the one into the other is lifting this act to a level opening different possibilities. In the embedded situation in the case of the apes there was no choice in the sense mentioned earlier. The action of the ape comes down to an all encompassing gesture while in the new situation observed from a distance, different entities are ready to grab and chosen from. The blind pressure to make a particular choice is left behind. This is a new condition, a tentative stance of consideration allowing one unit to be used to adapt another resulting in an Acheul type handaxe for instance. Apes do use hammer-stones picked up on the basis of intuitive affordances, but they never tailor the implements chosen.

### **Freedom of choice embedded in operations**

The condition in which the hominin collapses with the circumstances of the environment into one single world experience, which Plessner would call centric, transferred partially into a perspective onto the environment composed of manipulable discrete units.

This new condition is not to be understood as an opportunity emerging from a new mental condition the latter to be taken something existing on its own. Take for instance 'being kind'. That comes down to a series of personal interventions which through repetition in the end becomes appreciated as a quality called 'kindness' as if this would be something existing in its own right. In the case relevant here the reorganization of the focus in concert with the out reaching hands results in a demarcation of manipulable units bringing forth affordant entities. As the product of a filter redefining all what is perceived, the scene is presented as a set of units from which one can be chosen above the other on the basis of trying out. This is not only a matter of motor manipulation but involves also a weighing what fits best, an act of appreciation or evaluation. Being biased to analyze everything that happens we are inclined to divide acts of this kind into different aspect even substantive dimensions. In a direct confrontation however both, motor and evaluation, are one movement. Most important this is a quite common even trivial form of action not involving purely mental capacities.<sup>151</sup> The point is that all this fits mundane settings; there are no mysteries involved.

### **From being to having**

The new perceptive cognitive perspective going with a different way of handling elements, results in a technical proficiency in turn reinforcing the development of the perspective mentioned. It is another mode of being in the world by which the hominin starts to distinguish itself from the species most akin. Manipulation of instruments changed the perspective from *being* a world into *having* one. With the actual

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<sup>150</sup> For that reason the observation that the Pirahã people do not apply recursion is flawed. The linguistic expressions are embedded in the very act of bringing them forth indeed.

<sup>151</sup> Morgan's canon or Occam's razor are appropriate here "one has not to assume more mind than necessary", if it can be done without...

complexity of the human into account, it would not surprise that the content of this suggestion would be judged as being all too simple. Agreed, the picture human behaviour and capabilities demonstrates is quite intricate. But all things considered the character of this type of intricacy has a lot in common with the impression offered by fractals: in principle quite simple but after endless application this simplicity is getting out of sight only leaving a confrontation with a very complex depiction.<sup>152</sup>

The type of the interventions described is on the same level as the basic skill needed for cycling, coming down to two fundamental abilities: finding and holding balance and moving forward. The similarity is striking. Obtaining balance goes hand in hand with moving forward, the one cannot without the other. For the subject discussed in this contribution there are also two components: configuring input into a clearly distinguishable unit requiring a perspective of distance, phrased in terms of mental abilities a stance of consideration. Here too the one cannot be thought without the other. And strikingly both cycling and objectification are mainly perceptive-cognitive and motor adaptations in a changing environmental setting. In the first case from bipedal to rolling as mode of locomotion and from locomotion on all fours to an erect bipedal position in the second, both instances against the same material circumstances, a change in the environment<sup>153</sup>. So this comparison is not all that bad.

Concerning the argument of simplicity, what to think of Boolean algebra based on the values true and false and the operations “and” and “or”? This in itself is extremely uncomplicated going back on two extremely simple conditions: switch on or switch of. It however offers the blueprint and the steppingstone onto the realm of computation, computers, internet...

Disposing of a clearly delineated unit which can be distinguished from other equally clearly delineated entities is the necessary condition. That is exactly what is shown in the tools such as the Acheul handaxe. Whatever caused the coming into being of this characteristic the fact that it is only observable in the development of a particular line (group or branch) of hominin signifies the turning point, the onset into a particular direction of the development.

### **Time to resume**

- On the most fundamental level meaning is given, it is so to speak identical to being alive itself.
- The particular characteristics of the body organize the way the meaning given can be brought to an end.
- In that respect for the hominin the hands play the key role.
- In other words, they specify the way the burdens posed by the environment are going to be negotiated.
- The abilities provided are initially the same as these of the great apes, however some recruit implements (chimpanzees) others do not or rarely (gorillas).
- In so far tools are used the strategies are similar: holding, hammering, poking, digging...
- Artefacts found in large numbers testify that at a particular moment in evolution a branch of the hominin tailored the stone tools in a way (repeated and sophisticated) not observed in other species.

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<sup>152</sup> Hurford gives the example of playing the piano (2014:74). Reduced to its elementary level it is indeed extremely simple, despite that it can result into extraordinary results, a matter small variations and technical skills.

<sup>153</sup> Corballis (1991) observes that apparently around 8.000.000 years ago a hominin walked into the tunnel on all fours while 4.000.000 a bipedal species appeared. This period is sometimes called the pleiocene gap.

- Strikingly the items unearthed were clearly delineated, perceivable as **isolated individual units** in contrast to the Gestalt-type figure with diffuse borders and dynamic character.
  - The type of interventions needed to produce that effect, well-targeted and repetitive, reveals a stance of **distance taking**, consideration and evaluation.<sup>154</sup>
  - This stance has not to be understood as a substantial ability or competence, a prerequisite without which the effects could not have been produced but, as a dimension of a particular way of approaching a situation at hand (the latter literally as well as metaphorically).
  - The condition of event and organism *being* collapsed into one experience (centric) must have been transformed into a condition of an organism *having* a scene composed of manipulable entities perceived over there – at a distance. Having left behind the centric condition signifies the pivotal instance.
  - The units mentioned express particular characteristics. They can be preserved, transported, manipulated and clearly discerned from other units filtered out by the same perception organizing pattern. Being clearly discernable is the first prerequisite provoking further development. The characteristics are inherent, not forcing into manipulation but being affordant inviting to that end. Diffuse Gestalt-figures on the other hand promote engagement but manipulation is of a different order.
  - As the condition of being collapsed into oneness is called centric, the new condition lifting this being bound rather blindly could consequently be called off-centred or excentric.<sup>155</sup>
  - Already existing strategies such as the distribution of functions over both hands and the (particular) sequencing of actions can of course be continued but – most importantly - also find new opportunities in the perception of discrete entities defined by and affordant to the abilities of the hands.
  - Making use of several discrete units is naturally implied in the changed relation to the environment. Increasing the reach of holding one item into the hand to the extension of posing one item into another and this distributed over several units is in that changed perspective neither problematic.
- => The resulting condition is that of a hominin characterized by a changed or reorganized perspective on the environment going hand in hand with an extended set of manipulations taking advantage of tools modified to improve effectiveness.<sup>156</sup>

This stage could be called “the technical proficient hominin or following Leaky’s wordings even ape”. It needs to be stressed that in this development nothing mysterious is going on. And if there is something deserving that label then it is about the circumstances underlying the changes mentioned – but by this entering the field of causes which is another story altogether. As repeatedly said the focus here is on what

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<sup>154</sup> The following is a remark in the margin. This coming into being of an emerging perspective in which a stance of what could be called ‘distance taking’ is in order signifies probably the condition of being which much later would be called “Dasein” (Heidegger) or “pour-soi” (Sartre). The being of the cow adopts the mode of grazing. The grazing is characterizing how the cow is as being. The perspective characterized by distance (seemingly looking and judging from a distance) is the mode the being of the hominin which in the end will become human takes. In that sense being (Sein) is not opposed to being there (Dasein) meaning not forming a unity with the event at hand, but is the mode the being takes and which differs from the mode previously expressed.

<sup>155</sup> Sometimes also called allocentric, defined as the ability to imagine visual perspectives not centred on ego. (Wynn & Coolidge; 2016:2005) Observe that to my opinion the authors might be conflating two different conditions: a perceptive cognitive perspective reorganization and displacement. Allocentric in philosophical terms may be referred to as Archimedes position when tilting the globe. McWhinney opposes grounded to ungrounded (in Givon & Mall, 2002:239)

<sup>156</sup> The goal is broad. Showing off for instance can also be understood as a valid goal.

has changed, what are the characteristics, the opportunities becoming within reach and what are the fruits?

In the light of the development into humanization the conditions described are necessary ones. Without these there would not have been a development in the direction we are familiar with. They are the stepping stones, the affordances or the conditions of readiness for developments.

Being the necessary conditions they are however not sufficient for one of the most central characterizations of man: the ability to share declarative information or in its broadest form the transmission of culture.

The claim put forward is that self initiated experience of displacement in space and time offers the sufficient steppingstone. How can this be explained?

### Levels of meaning

This is the right moment to take a different path.

In the Western tradition meaning seems to be something in the open which has to be acquired. As has been made clear earlier the idea defended here is that being alive is synonymous with meaning. The meaningful figure is obtaining its phenomenal form on the edge of the chaos present on the one hand selected out by the primary motives and the abilities the bodily infrastructure the organism provides on the other. In that sense the world as meaningful appearance will be different for the ant compared to the one of the hominin.

Life equals meaning. A living organism is full of meaning from the very first moment.<sup>157</sup>

**Two levels** have to be pointed out. In **the first** instance meaning is what is relevant in relation to the primary motives, the latter coming down to sustaining life and procreation.

**The second** level is intertwined with this. It is determined by the type and construction of the body. The cow is as any other organism motivated to stay alive. But the way it is getting around is determined by the construction of the body, its orientation and the abilities opened by the particular and species defined body plan. Man is no exception. Remarkable detail: however the hominin is akin to other ape species there are signs that the former started walking on the hind limbs around four million years ago (Kanapoi region, Laetoli, mentioned in Stoczkowski, 2002:75). This changed the perspective on the surroundings quite drastically. Not less important it freed the hands from the burden of supporting locomotion, hands which already were skilled in grasping and holding. They provide and organize in a prototypal way access to what was of importance in the environment. In that sense the motive determining the drive onto the world got specified by the abilities of the hand. Not all what in principle could satisfy hunger for instance appealed, but what the hands could grasp.

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<sup>157</sup> Chapter one offers the most recent and elaborated explanation on this subject.

So the primary motives provide the **first** layer of meaning. The hands provide the second in that they refine the first by their selective function. This **second** layer is easily overlooked, disappearing unnoticed in obscurity. This is remarkable because in finding out what something unknown is we Westerners normally look at what it can do or what it can be used for. Not so in the case of the human. Blinded by the Greek heritage we focus on its essence<sup>158</sup>. If man would have been approached as a thing unknown, then the hands would certainly stand out firing up understanding.

In line with the most fundamental drive and with the embodiment abilities of the hands the tool supporting action appears as the **third** layer of meaning. The tool had initially a dedicated task consequently meaning. Not in the sense of a tool as a general category referring to any implement supporting action, but for instance as a particular scraper, not the general category of scrapers, let alone tools.

**The fourth layer:** meaning by association

Accidentally the scraper could have been involved in another event of importance, killing an enemy for instance. The presence and moreover the presentation of it on another moment and in another location could have sparked a condition of reminiscence in the actor and others having witnessed that event. Based on association the tool in question acquired a semantic payload. This instantiates the **fourth** layer of meaning.<sup>159</sup> In itself a meaningful experience provoked by association is not extraordinary. An animal of prey picking up the smell of a predator or hearing the sound produced by one will also be fired up as if the threat was actually present.

So experiencing an imaginative content coming down to reviving a situation not actually present is not exceptional. What in the case of the hominin becoming human is exceptional then?

At this point the previous part of this contribution becomes relevant.

### On the status of the object

The technical proficient hominin is characterized by reorganization of perceptive cognitive ordering focusing on clearly distinct – i.e. separate and on a distance - entities forcing the agent into a choice. Remember that this is not to be taken as an installed mental capacity but as a tangible presence provoking motor action in relation to the preferences of the need of the moment.

So there are clearly distinguishable units going with a condition eliciting to make a choice<sup>160</sup>. Within the confinements of being grounded, bound to situations answered intuitively by existing heuristics and behavioural programs gradually the mentioned approach arose. A new way of negotiating the burdens of the environment got in place.

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<sup>158</sup> "Ti esti ti" or what is that – that what is (referring to the unchangeable essence, the nature of it).

<sup>159</sup> There (at least) two more layers. The fifth is meaning by stipulation, a layer coming into being once the opportunities of displacement are fully explored and exploited. The sixth layer builds further on this by applying the methods of projection. It could be argued that stipulation is based on projection and so this distinction should not be made. This is open for discussion but not really of importance as these layers are however not relevant for this exposition.

<sup>160</sup> I am quite reluctant using the term "free" because it all too easy suggests a mental capacity – think of free willness as some quality existing in its own right. Again what is meant here if really low level: something being present, preference and motor ability.

It is not superfluous to stress that the reorganization of the ordering giving perceptual pattern whatever the causes driving into that direction, is at the core of the new abilities. Without that pattern which today would be recognized and conceptualized as “object”, the advances would not have been possible.

Before listing up some of the new characteristics and abilities, the following observation should be made.

Apart from some philosophers “object” is rarely considered to be based on an underlying pattern or a concept.<sup>161</sup> It is tacitly taken as self evident even a natural type. The world is full of objects. It is the way it is, end of story<sup>162</sup>. However studies on the behaviour of animals<sup>163</sup>, research in the domain of developmental psychology<sup>164</sup> and some cases of treatment of congenital blind<sup>165</sup>, all provide strong indications that the object or more precisely the concept of object is a cognitive construct. The human has to learn to recognize<sup>166</sup> a particular configuration as something belonging to the category “object”, further to identify it as a particular type within that category. So the position defended here is not that exceptional. Alas taking the object as a natural given, the difference opening the insight made in this paper vanishes. The tacit assumption being that if there is no difference in that dimension between man and non-human animal, the germs underlying the human trajectory must be looked for in other directions. In combination with the assumption of taking seriously the existence of mental capacities<sup>167</sup> on the one hand and the mysterious fruits of the neural workings on the other, the deception is complete: the human particularity emerges from the workings of the brain as a Genie from Aladdin’s wonder lamp. While if the difference is taken seriously a range of characteristics until then not understood gains transparency.

### **It needs to be simple and elegant but not in all cases**

This requires however that the building blocks in all their simplicity have to be taken serious. This is not said without good reason because the attitude of mainstream thinking is somewhat peculiar. In the natural sciences, the more simple an idea or a formula is, the greater the admiration. It is proclaimed as most elegant. Conversely when the subject has to do with the humanities, eyebrows are getting frowned accompanied by some mumbling that it is all so complicated, billions of neuronal connections taken as prime example. Boolean algebra as apex of simplicity at the same time the bottom line of all computing has been given<sup>168</sup>. It falls back on two states: true and false or in mechanical sense on and off and a few

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<sup>161</sup> In The Stanford Encyclopaedia of Philosophy, the discussion on the meaning of object takes 60 pages. This might well be an indication that is not evident and probably somewhat problematic to say the least.

<sup>162</sup> Take “Visual Object Recognition” by Grauman & Leibe (2011). Even a basic handbook like this seems to take objects as kinds given, the problem is the process of recognition.

<sup>163</sup> Mammals and hominidae in particular.

<sup>164</sup> Lockman (2000); Casler (2005); Simms (2008) to name a few contributions in this domain.

<sup>165</sup> Mike May for instance discussed by Huber et al. (2015)

<sup>166</sup> “To rephrase” so to speak the world imposed and molded under the pressure of the urging primary motivations into a different form also relevant but from a different approach.

<sup>167</sup> Goethe observes “Denn eben wo Begriffe fehlen Da stellt ein wort zur rechten zeit sich ein”. But once word became commonplace the quest for the corresponding entity is fired up. In that sense the search for the seat of consciousness is in full swing. One suggestion by a highly esteemed mathematician is that it might be emerging from the workings of still to find quantum gravitation fields in micro tubules. Hmmm.

<sup>168</sup> Quantum computers left out of scope here.

operators such as “and” or “or”. Think on the other hand of the highly complicated graphic scenes and computational capacities based on intermediate increasingly more complex computer languages. Philosophers might prefer another case as illustration. Take the introduction of the condition of immutability in the vicinity of the Aegean Sea around the 5<sup>th</sup> century BCE. It is about one uncomplicated concept<sup>169</sup> defining the course of the Western thinking in the meantime a dominant model around the world. This origin however has long been lost out of sight.

This point made, let us focus on characteristics, features and abilities going with or opened by the introduction of the “object” template.

### The changed relation, characteristics and abilities

The most significant change occurred in the relation to the environment. Being absorbed in and by an event, a centric experience in Plessner’s terminology, made room for a relation to something in front of the agent, a relation of *con-front*-ation. That some-thing we call an object sounds more striking in German “die Gegenstände”<sup>170</sup>. It expresses two aspects: first there is some-thing distinct and second it is situated over there at some distance. “Distare” as root for both meanings has been mentioned earlier. Both are exactly the characteristics of the template acquiring form in the explorative relation to the action supporting implement. It is important to remind that this explorative relation carries the germs of a condition which eventually will open the space to make a choice in first instance on the level of action, a condition which once projected onto more abstract contents will be referred to as being free<sup>171</sup>. It is at the same time condition, action and perspective. The naming only expresses a difference in the perspective when discussing this subject. It is the hallmark of a crucial difference in comparison to the species most akin. Their behaviour is cued<sup>172</sup> either by the pressure of their needs or by events occurring in the environment. That is the **basic condition**.

But improving the tools also testifies of the inclination of taking initiative. This is akin to being able to make a choice on the level of manipulation. The latter needs to be stressed: the openness originates first and actually only manifestly on the level of manipulation or action if taken somewhat broader. This level will provide the substrate for the much praised mental openness characterizing creativity and generativity taken as the hallmark of the human. This so called mental openness is realized through a mechanism of projection.<sup>173</sup> I have to limit myself here to only mentioning this dimension or realm of importance because it not only deserves a discussion in its own right, it would lead beyond the scope of this text.

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<sup>169</sup> Reference made to the transition of “hoti estin” (that it is) to “ti estin” (what is the nature of that what is?)

<sup>170</sup> Reference also made to Hegel taking “fur-sich” as the object finding itself in front of the subject or take the distinction between “pour-soi” and “en-soi” made by Sartre.

<sup>171</sup> It has again to be stressed that this type of being free meaning in the first place “unbound” occurs on the level of action. The idea of being *free* as a psychic ability only comes much later. To my knowledge that can be observed with Zoroaster when good and evil changed from real life relations into qualities and with the realm of ideas by Plato.

<sup>172</sup> It is tempting to add “(...)cued *rather blindly*”. But this would suggest that there would also be another condition “not blind by based on reflection” and this is a misleading formulation because in the condition of the non-human animal an alternative is absolutely not existing.

<sup>173</sup> In my research leading to the core ideas expressed in *The Forgotten Transition* it was not all that difficult to sketch out how a holophrastic way of expression based on the manipulation of elements compromised by displacement

Making a choice between in that particular case nodules, expresses a gesture of initiative. It is not something sprouting from out a mental capacity being present somewhere in the psyche. It is elicited by the context demanding action in the context of acquiring an implement in order to support further action. At this point the hominin in question testifies of being able to **initiate** action **himself** instead of being heteronymous cued into it. This is a crucial moment of transition.

There is still more. The implement not only gained a distinct shape, in the fourth layer of acquiring meaning it also functioned as a stimulus taking the place of the authentic event. According to Vygotsky it acquired the role of a **second order stimulus**. It leads to the effect of bringing reminiscence to life implying that it expressed something about the character of the event it referred to. Again two aspects are of relevance. First it expresses a relation of **aboutness** and second it brings an informational payload to life. Could that not be the basic pattern of what in linguistics is called a declarative<sup>174</sup> statement – rather *content* in the stage discussed here – about an instance?<sup>175</sup>

All this is based on perceiving discrete entities instead of pure Gestalt-figures. The driving dynamics described by Gestalt-psychology are still present but the forms taking the foreground are functions of the dynamics of manipulation serving the driving dynamics mentioned.

These forms, these objects can be conserved, transported<sup>176</sup> and manipulated. The latter has a special effect. Been compromised with an extra layer of meaning acquired by association, the manipulation of the implement implies the manipulation of the experience provoked, an experience characterized by a nature of displacement. In that sense **the “logic” of manipulation is transposed onto and mirrored in the structure of the joined chunks of displacement**.

In a nutshell figures start to show ever more bordered, becoming discrete and distinct from one another. Taken over by self initiated actions being heteronymous determined by the conditions of the moment fades away. These entities allow firing up reminiscences. They function as carriers of displacement. The structure in manipulating these carriers is mirrored in the structure of complex reminiscences. It takes over the perspective of distance and of declaring about.

### **Conclusion, the twofold aim of this essay.**

In first instance I wanted to do right to the role of the hands in negotiating the environment. Being first line their form and way of instantiating action sketches out the blueprint for further heuristics and

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could have been coming into being. But this had little to do with the sophistication of a full blown human language. This felt like an absolute abyss for quite some time. It changed by reading work on semantics, cognitive and grammatically, in which the mechanism of projection played a central role. (Lakoff, Johnson, Kittay, Langacker, Fauconnier to mention some authors working in that field)

<sup>174</sup> “The bulk of the grammatical machinery of human language is invested in the coding of declarative speech-acts”. (Givón, 2001:32)

And Tomasello (1999:36, see also 2003) observes that supplying data about the repertoire of chimpanzees showing that their “signals” are restricted to the drawing of attention and to imperative gestures. He adds that in their natural habitat they never initiate the intention to give information about something (declarative).

<sup>175</sup> In this context two terms come to mind. Think of Charles Sanders Peirce defining a sign as something – some *thing* – standing for something else and Ernst Cassirer in turn defining a symbol as a sign enrobed in meaning.

<sup>176</sup> In some production sites a massive amount of hand axes were found providing indications these were intended to be used elsewhere.



operational steps. As such they are paving the evolutionary trajectory leading into what will characterize the human being in distinction to non human animals. However there are publications shedding light on the importance of the hands, the primordial and decisive influence is never fully stressed. To put it bluntly the type of knowledge and action characterizing the human is permeated by the scheme of mediated manipulation<sup>177</sup>. And that in turn comes down to the presence, the form and the motor abilities of the hands. Converse without hands all this would not be possible, let alone thinkable making use of wording.

The decisive role of the hands deserves to be fully appreciated.

In second instance but not less important the spotlight got focused on the role of displacement and on the not mysterious way the dynamics and the effects of it can be thought. Able to manipulate on a self initiated basis manipulation of objects as carriers of reminiscence allow firing up imaginative realms. This enlarges the world within sensible reach in an exponential way. This ability is without any doubt a cornerstone of the typical human culture.

Not really a goal but through this exposition six layers of giving meaning were mentioned.

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<sup>177</sup> Descartes and many others for that matter predetermined by the model in which God provided man with the capacity of ratio would not agree. Even Jerry Fodor (1975) suggested that mentalese preceded the form of language which could be captured by the senses. But how could language without word like elements could be realized? Are words then not things following the dynamics of manipulation which mirror these of the hands in the manipulation of tools?

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## 4. Hands

*This text is an extract of an essay “Hand and imagination, manipulation of the basic dynamic underlying displacement”. It is dedicated to the memory of Marc De Vos, a friend deeply interested the human existence.*

All homininea have and make use of hands that are able to grasp, hold and move whatever could be grasped, held and moved. Humans are hand centred in space<sup>178</sup>. The latter is not to be understood in a Euclidean<sup>179</sup> or Newtonian sense but sensory and motor defined. In Euclidean sense space is a novelty only existing in the thinking brought forth by the human kind. Space on the level of experience shared with species most akin comes down to the extent the eye can catch, the reach of locomotion and of the grasping hand. So space is more a dimension of perception and of movement rather than an imaginative framework onto which orienting parameters can be set out.

The fact being equipped with hands is so trivial that it is overlooked altogether. However the importance of the logic of the hands cannot be appreciated enough. It could not have occurred in animals with hooves, wings or without limbs altogether.

The human way of negotiating the world does not come out of the blue, it is not neutral nor independent and objective. It is harnessed by the particularities of the body. The hands provide the interface where the negotiation of the environment takes place<sup>180</sup>. It sets and specifies the blueprint of the development at least of motor directedness, perceptual focus and cognitive patterns and strategies. In short, the importance of the type of embodiment is paramount.<sup>181</sup>

It could be noticed that the position and contribution has been observed but apart of the fact that the hands fulfil a central role in the existence of the human, is it well worth all the fuzz?

This misses the point completely.

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<sup>178</sup> Cfr. N.P. Holmes in Z. Radman, 2013:57-70

<sup>179</sup> Wynn & Coolidge, 2016 are premature in relating spatial cognition to Euclidean spatial thinking. Because that type of understanding is only possible much later when the use of implements as secondary stimuli provoking displacement and thus projection got introduced. Silverman (1992, 2000) suggested that an Euclidean framed awareness could be based in the division of labour of hunter gatherers.

<sup>180</sup> In its own context not to be confused with what is explained here. Following Anaxagoras Aristotle considered the hand the tool of tools. But he also considered the hand as the product of the intellect and not the intellect brought forth by the possession of hands (De Anima, 432a).

<sup>181</sup> The following contrasting situation illustrates the importance. For a grazer the head is directed to the ground, the lips pulling the grass, the eyes directed sideways alert for eventual dangers. The world experienced is a conglomerate of ground directedness, grass and caution. Something similar is the case for the hominin being bipedal and provided with hands to grasp but directed in a very different sense.

Further the following are of relevance in relation to the hand as channel of approaching the world: Radman Z. (ed), 2013, The hand an organ of the mind; Napier, J. 1962, The evolution of the hand, The Scientific American; Cagli & Coraggio, 2008, What the draughtsman’s hand tells the draughtsman’ eye, International Journal of Pattern Recognition and Artificial Intelligence; Tocheri et al.2008, The evolutionary history of the hominin hand (...), Journal Anatomy; Marzke M.W., 1992, Evolutionary development of the human thumb, Hand Clinics; Almécija & Sherwood, 2017, Hands, brains and precision grips, Researchgate.

Being the actual first line interface the hand centred orientation is far reaching. It implies that all interventions onto the world are framed within the logic of the abilities of the hands in cooperation<sup>182</sup>. This easily escapes us because it is our very nature, the way we approach the environment. It is like the body of water for the fish. Before being characterized as “speaking”, for anything humans are manipulating beings. The following could help. What do all living creatures have in common? Being primary motivated, i.e. maintaining life and procreation. Several groups of species however differ in the way that motivation is getting realized. They differ in the way the burdens laid upon by the particular environmental conditions are negotiated. A bird has wings and a beak. It moves by flying and feeds by using the beak<sup>183</sup>. That is the systematic underlying its existence. That logic to use an inappropriate word is different for different types such as a predator like in the case of a tiger, a grazer like an antelope, the crocodile, the snake etc. What is that basic pattern underlying negotiating the environment for the creature which in the end will be called human? For the species most akin the hands have a twofold function. Chimps are knuckle walkers so hands are used to move around. But they are also used to hold on the branches of trees, grasp fruit or a prey, hold the offspring, in some cases even handle an action supporting implement. For what would become the human line the function of locomotion has been divorced of the function of holding and grasping. Locomotion brings where the food is, the hands specialize in handling it. This might be an all too simple illustration but it comes down to the fact that main functions such as locomotion and manipulation are getting divorced and that being the case they specialize along their track. Upright walking can be considered a specialization, the same goes for the applications of the hands. They specialize in executing interventions. In summery, they are the first line specialists in the act of negotiation. But that has a major consequence. It actually means that all further refinements, heuristics and strategies originate within that framework and cannot do anything else then follow the “logic” of it.<sup>184</sup>

The suggestion is that in the further development two stages can be discerned. In first instance the taking form of a perceptive configuration which will adapt to and fit the act of manipulation and secondly the use of the form given artefact as a stimulus of second order thus provoking displacements in time and space in the experience.

On closer inspection and way ahead of what has to come, how difficult is it to recognize in the act of speaking the manipulation of objects with the purpose of provoking a certain effect? Is it too bold to state that this is an example of negotiation?

At the risk of repeating myself this pattern is so low level or first line that it goes unnoticed, moreover veiled by a historical heritage that it is all about the ultimate truth far away from the realm of vulgar manipulations.

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182 The trajectory of the human evolution is brought forth by the use of hands; it does not as a ghost out of Allahadin's lamp emerge from the workings of the neural tissue. Compare with Trivers observing that the brain is functional in surviving not in the task of producing knowledge (2002).

183 It is more then often said that man is special. But what to think of birds able to fly? Isn't that not even more surprising?

184 The automobile whatever the actual degree of sophistication could only be developed within the logic of the abilities provided by the introduction of the wheel.

In short whatever the semantic discourse the human enrobes his existence in, his way of behaving, his way of being in the world can from a technical point of view be understood as a form of mediated manipulation, the logic of the hands providing the overall framework.<sup>185</sup>

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<sup>185</sup> Let us burry the picture of the human provided with special seemingly esoteric “mental” gifts and try to understand behaviour as a particular motor based way of negotiating the world.





## 5. The meaning of grammar of action in stone knapping for human cognition in general

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### Introduction

Dietrich Stout and colleagues propose a “Grammar of action in human behaviour and evolution”. The title refers to human behaviour and evolution in general, the contribution offers an analysis of the detailed manipulations applied in producing stone tools. The former promises a hint into the secrets underlying the human condition based on the rigorous analysis of observable manipulations. These are very different levels. This contribution will discuss this difference but focus on the importance of the broadest approach.

### The grammar of action

“For more than 60 years, the serial ordering of behaviour has been a core topic for the cognitive and behavioural sciences. Enhanced capacities for complex action sequencing support distinctive human behaviours such as language, imitation and tool-use, and are fundamental to the flexibility that is a hallmark of human intelligence. It has been suggested that this implies a unitary evolutionary and neural foundation for human cognitive uniqueness across domains but this remains controversial. Although modelling suggests computational similarities across behaviours ranging from foraging to language-learning empirical investigation has been limited by a lack of objective, generalizable methods for describing, quantifying, and comparing the sequential structure of diverse, real-world behaviours. In Palaeolithic archaeology, for example, investigation of long-standing hypotheses about the evolutionary relationships between tool-making, language, and cognition have been hampered by the lack of an objective metric for the behavioural complexity of different ancient technologies. Here we adopt a data-driven computational approach to this challenge by using grammatical pattern recognition algorithms to measure the structural complexity of behavioural sequences from modern tool-making replication experiments – effectively extracting action grammars for critical survival skills from the human evolutionary past.”<sup>186</sup>

This rather long extract catches the core of the set up of the research.

What are the conclusions?

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<sup>186</sup> Stout, D., Chaminade, T., Thomik, A., Apel, J. Faisal, A. 2018. Grammars of action in human behavior and evolution. BioRxiv, preprint. Doi: <http://dx.doi.org/10.1101/281543>. As a note in the margin Ian Davidson also offers an overview of the gradual increasing complexity in the production of tools. (Nowell, A. & Davidson, I. 2010. *Stone Tools and the evolution of human cognition*. University Press of Colorado. P. 194.

Different techniques such as Hidden Markov Systems, K-Sequitur and the occurrence of Shannon's entropy allow a detailed and quantified description. It showed that in the production of an Acheul type handaxe two levels of complexity occur while Oldowan type only one. It might provoke the impression that as a critical reader I have been all too short-sighted but this is actually the core of what is getting concluded in the article however with far more detail in the domain of statistics and of neural investigation.

Apart of the fact that this conclusion seems rather trivial, however confirmed in a rigorous way what actually is in the open for all to see, there is something else feeling odd.

The introduction silently promises a glimpse on some *deus ex machina* fundamental for human way of rendering intelligence. But the research discussed is focussed on a quantitative description based on analyse in which statistics play an important role.

Should it rather not be one or the other, either a broad perspective or a restricted window on a particular type of action? What can the latter add to an insight on the former? What does an increase in complexity in serialisation tell about the type of knowledge characteristic for the human?

But there is yet something else feeding dissatisfaction on my part. The following analogy will help to understand.

On the scene appears the usual visitor from Mars ignorant about human behaviour. The creature will be confronted with humans playing a game of chess.

There are two possible starting positions.

1. or the martian will be left completely uninformed while he has to find out what the scene in front of him is all about;
2. or he will receive some introduction on the goal of the game and the name of the pieces and provided with this basic information he has to find out the particular moves and the general tactics.

In the first position the visitor is completely ignorant, in the second he has knowledge of the concepts and possible operations.

Extrapolated to the actual situation the first position can eventually provide an overall view on the character of human cognition, while in the second the Martian equipped with basic information is already getting launched in a particular direction. That could be helpful but at the same time also blinding. The concepts offered in advance force the understanding in a particular direction. In virgin scrubland any direction is possible but if there are remnants of an existing path the direction is implicitly signified. The allegation is that the choice of investigating the operations concerned in fashioning a nodule into a tool already installs a particular framework guiding into a possible understanding.

This critical remark raises the question what kind of approach would be more appropriate for unveiling the cognitive particularity of the human?

### **The basic pattern**

An analysis and description as offered by Stout et al. is all too strong focussed on sub-operations. A step back widening the perspective is required.

The very first question to ask is about the basic aim of an organism. Aim not be understood as the achievement of a certain goal in a far future but rather as what is the sense of existence while sense is rather synonymous with life itself. What is the basic drive, what is the most fundamental motivation of any organism? Darwin in the last paragraph of "The origins of species" refers to growth and reproduction. Indeed any form of behaviour of an animal can be understood as the fulfilment of these fundamental motives: acquiring food in order to sustain life, looking for a mate to reproduce and taking action to avoid a harmful confrontation. As such the existence can be understood as a never ending endeavour to regulate the primary motivated tension in relation to turbulences occurring in the immediate environment. This type of behaviour has by Watzlawick et al. (1967) appropriately been coined relation regulatory. Further, how an organism experiences the world, what type of world it seems to have has been referred to as world one in "The Forgotten Transition". And on the level of understanding Pamela Lyon, Fred Keijzer and Van Duijn refer to a minimal form of cognition.

This in a few words the basic condition shared by all organisms.

The primary motivation provides direction to all what is alive. This is concretized by all means the body provides. For some creatures the whole of the body is involved like with a constrictor, some have special parts like the muzzle of a grazer or a bird using beak and claw, or the front limbs like bears or even better apes and monkeys. As such the first regularity, the first pattern is this fundamental drive incarnated by the form and the capabilities of the body.

### **The second pattern**

Of course we are most interested in the comportment of the species most akin. They move around on all fours, knuckle walking. The back is in a diagonal position forcing the gaze to a nearby zone on the floor. The hands skilled in grasping tree branches are also suitable for grabbing food and holding infants. Some species use stone tools, like in the case of an anvil and hammer to open nutshells. This already shows a particular structure by different operations being executed in a particular sequence, serial ordering is already present. It is a matter of fact inherent to the way the apes are built. Further observation shows that tools are not transported over long distances and that the use remains restricted to a particular situation. All this underpins the idea of incorporation, the implement becoming part of the bodily engagement.

But despite these limitations the use of an implement already provides some advantage. In first instance it protects the skin of the palm and secondly the hammer nodule augments the mass and by this the striking force. Furthermore throwing stones or holding off a danger using a stick increases the range in space, the same for using a twig as a ant fishing rod. It also increases the type of food as in the example of the nuts. Being bound to the actual and the local, a direct entanglement in what is happening (not able to reflect on a given problem), incorporation of action supporting means, these are features characteristic for this phase of development. The abilities find some extension but the fundamental dynamic and organization of behaviour remains the same.

### Change as third pattern

So far not one single species shows a spectacular qualitative leap.

Big cats still kill the way they did, grazing animals continue their activity as always and so on. Only those branches of species which in the end will bring forth the human testify of a particular evolutionary parcours. The last common ancestor lived in the canopy and spent also time on the forest floor. Doing that he made use of all fours, the front limbs in a knuckle walking position, the wrist locked to provide the strength needed. Some groups remained longer on the bottom and gradually developed a bipedal posture and gait. The front limbs lost the supporting function but they were nevertheless already skilled in other functions. The hands for instance were proficient in grasping fruit and holding an infant and some apes were even skilled in the manipulation of action supporting implements. These skills “suddenly” found themselves in an open space. Exploring and exploiting the mentioned skills further seems a natural development. Anyway whatever the speculation on this matter, the tools unearthed by anthropologists testify of an improvement. But all in all this development shows improvement in the sense of becoming better in practice but it does not show yet a radical change. A chimpanzee breaking the shell of a nut with a hammer and anvil is already remarkable but this did not open the gateway into a complete new way of negotiating the Umwelt.

Taking the contemporary cognitive capabilities of the human into account there must have been something else going on.

The stone tools found provide actually hard evidence for radical changes. Take the Acheul hand axe. The character of older tools of the Lomekwi and Oldowan type can be discussed, but the apparent standardized teardrop form of an Acheul no longer.

What has changed and must have been changing with it?

As mentioned the introduction of an erect posture is not only related to the way of locomotion. It also has other effects such as changing the visual perspective. The visual stage changed from a nearby frontal segment mainly focussed on the forest floor into a wider, horizontal field. Freed of locomotion supporting functions, the intensified manipulations of the hand attracted the focus which in itself already had been reoriented. All this is not to understand in a teleological way, in the sense of “it needed to go into that direction of development in order to”. It rather should be taken in the sense that the circumstances became of that nature that they invited or provoked this development. It could be said that the situation in a sense became affordant, all circumstances were such that it had to happen – as an effect and not as a goal.

Observe that in this approach the impact of the manipulation of the hands is leading, at least playing a role of equal importance with the visual. Today we are all too inclined to think of looking first and then acting in according to what has been observed. But the reaching out and grasping is at least as important if not more.<sup>187</sup>

As a note in the margin, stressing the importance of the motor dimension is justified but actually here we are trapped in a typical Western analytic way of thinking and modelling. Things are taken apart so that they fit into a mechanistic scheme of cause and effect. Useful for computation and estimation indeed, but

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<sup>187</sup> The research into the workings of mirror neurons support this approach.

on the level of biology and ecology would it not be more a case of one engaged movement of which both are dimensions and not separable parts existing independent?

Picking up where we left, the intensification of the circular action between the motor and the visual – the focus on the hands, will over time<sup>188</sup> result in an increasing attention for particular features in turn changing the perceptive cognitive organisation of input. The following analogy is not exactly what is meant but it provides a hint.

Take a Westerner who never left his village suddenly finding himself in a Chinese environment. He is familiar with the type of writing based on the Arabic alphabet but what he now finds represents to him no more than a mess of thin lines and dashes absolutely devoid of meaning. After a while he is getting used to some of the ideograms, becoming able to decipher particular patterns and attaching meaning to it. In the end he will become able to read the meaning in a direct manner that is, without the need to study the particular ordering of the signs. He will “see” the meaning.

It makes clear the trivial fact that meaning is not embedded in the sign itself. That is what it is: a configuration of dashes and lines. What changed is the process of interpretation applied by the visitor.

As said, this analogy is faulty because in a phylogenetic perspective the implements manipulated by the hands are not understood as meanings as in the case of the ideograms. The case here is that “the eye” becomes ever more sensitive for certain formal characteristics favourable in relation to the use of the implement. In the case of the ideograms the relation took place between eye and meaning, here the relation is about eye and use. This of course also bears a kind of meaning, but the stress here is not on that but on the formal characteristics. That is the form of the implement, the mass, the handiness, the affordance all in relation to a particular use such as carving or scraping.

What exactly is changing in the act of looking?

The implement is slowly getting separated from its character of being incorporated. It gradually becomes something standing in its own right. It becomes a particular type of configuration taking the foreground. It becomes a form in isolation which can be recognized not in the sense of fulfilling a certain described criterion but as something fitting the hand, almost asking to be taken by the hand in order to execute this or that action. It has a circular character: looking out for discriminates favourable characteristics as in the case of a sculptor chipping of and neglecting material which is of no use, and conversely the remaining form sucks up the focus and sharpens the attention precisely for the characteristics of relevance. In anticipation: the Umwelt will increasingly become understood in function of the manipulability, it will become a set of manipulable entities. This is a very different perspective in contrast to a phenomenal scene purely defined by the condition of the primary motives. As such it signifies a first moment of radical difference.

Two issues are of importance.

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<sup>188</sup> The enormous window of time has to be considered. Between Lomekwi and Oldowan there is about 700.000 years, between Oldowan and Acheul from 800.000 to 1.000.000 years. So the development sketched out here spreads over many generations.

What has been described is happening in a context of manipulation in the broad but also in narrow sense, negotiation on the one hand, the concrete operations executed by the hands on the other. In all this the logic of manual operations in which an implement is involved, is the defining pattern and always present. This goes against the silent and commonly shared opinion that the human from out a sphere of free floating freedom as a neutral frame of reference decides on what action to take. But as made clear this area is not neutral at all. Basically there is the primary motivation determining the very first meaning of what is happening from which mediated negotiation is geared up. So there is already meaning and a particular mode of operation as the very first basis.

Secondly a recalibration of the visual activity is taking place in particular the way the immediate environment is getting organized into a meaningful scene. Driven by the primary motivation the eye increasingly is becoming focussed on the perception of features with the character related to manipulation such as form, handiness, efficacy and the like.

All these elements contribute to an increasing specialisation of the negotiation of the Umwelt even a moment of radical difference. However taking the contemporary abilities of the human into account the conclusion remains that this – despite the mentioned difference - does not suffice to obtain the level of cognitive capabilities the actual human demonstrates.

#### **Stage four: taking off to another level altogether**

The intertwinement of hand and eye resulted in a reconfiguration of the input provided by the environment. The meaning of the action supporting implement was bound to the use of it in an overall scheme of primary motivation. Here meaning is direct. The meaning of a hammer stone is crushing coverings making the nutritious content available.

Incidentally it might also have been used in killing a predator. This event enrobes the tool with a second meaning. The fact that a tool no longer is embedded in incorporation but appreciated as clearly demarcated and isolated from other specimen equally discernable, provides the readiness required to serve as a stimulus of second order. As such all is in place for the presentation of a tool having killed an enemy to provoke in the experience of a witness of the original scene, a reminiscence of that dreadful event. The tool acquired the function of a substituting stimulus.

Two issues are of importance.

First of all, that by manipulation of some entity one becomes able to provoke an experience. The type of experience is not special as there is a lot around that is meaningful and by this provoking experience. It becomes spectacular by the fact that the action is self initiated. Once experienced as a possibility then it acquires the character of an unexpected reward which in turn requires repetition and reaffirmation. Observe that reflection is not required. It is a process which could be described in behaviourist terms, operations driven by rewards. But of more importance is that it fires up a tendency today coined as intention. This is a new condition whereby experiences are not exclusively fired up by external factors, but also can be brought to life by a self intended action. In combination with the content of the effect, that is making reference to something which is not actually present, it frees from being bound to the situation locally at hand. Displacement in space and time – always in the realm of experience – becomes an

accessible practice<sup>189</sup>. It will in the end lead into the ability to build models and plan future actions in the imagination<sup>190</sup>.

There is more.

The process of objectification, hand and eye discerning particular patterns, implies already a taking of distance. One has to step back to better see what is in front of him (con-fronting him) in order to improve the form of what will become the tool. Add the ability to bring forth imaginative content of something or event not actual present by this transcending the condition of being bound. The initiator enters the experience of being disconnected. He is no longer instantiating the centre of the event, he becomes decentred, excentric as Plessner calls it. He find himself positioned on the sideline. He becomes a perpetual observer. It even takes a bizarre form when in imagination fired up by making use of external cues, he provokes an image of himself or of a feature of himself or of an event in which he got involved. At this point reflection understood as considering upon, becomes reflexion or considering upon oneself. It is bizarre indeed because the organism manifestly being one and in principle undividable seems to break up in an active observer and a passive observed installing a feeling of distance which actually is not present. It is a certain perspective, an appreciation which Sartre strikingly coins as “cette distance nulle”, the distance which is (getting experienced but) not actually occurring.

The ability to realize a displacement in time and space, if only in imagination opens a plethora of new applications, a complete new order of interventions onto the world which on top of that suddenly increased in scale in an exponential way.

At this point the human species realizes types of negotiation leaving all other species far behind.

### Summarizing

1. At first the behaviour of the hominin line which is of interest in this discussion provides no indication yet of a cognitive condition differing from other species.
2. Taking an erect posture and a bipedal gate provides the onset for a new perspective on the environment. It frees the hands from a supporting function in the locomotion and by this opens the ability to improve skills already present. But again this second stage does not show a qualitative rupture<sup>191</sup>.
3. In the third phase a circular dynamic of hand and eye results in a reinterpretation of the environment. A shift occurs from a purely primary motivated perception in the direction of an increasing attention for action supporting implements in first instance in the form of particular and concrete instruments, later a reinterpretation of everything perceivable in function of manipulation and in the end as a general perceptive cognitive pattern or a concept which is getting imposed. At this point a clear difference becomes apparent and this provides the first moment in which a radical change shows.
4. Association provides the instrument with a secondary meaning. It opens for the actor the ability to initiate and apply to himself experiences with a content of imaginative nature. Manipulation of the

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<sup>189</sup> This has been discussed broadly in other texts such as in “The Forgotten Transition” (2018)

<sup>190</sup> For this subject Lakoff and Johnson, different publications on the use of metaphor and projection in general.

<sup>191</sup> For some detail, Shumaker et al. (2011) point out that chimpanzees and bonobos do not introduce tools to make tools, they do not make tools in a cooperative setting, they do not bring forth complex tools and the power is provided by the energy of the animal and by the mass of the implement.

implement results into manipulation of the mentioned content. With this the capabilities of the species take a step of exponential magnitude. The cognitive abilities of the species most akin are left behind in a definite way.

This might introduce the idea of a world fully transparent and open for all possible interventions. However all this is unavoidably based on the scheme of action in which tangible means are involved.

Reducing the previous to the core of what rightfully might be considered the revolution:

1. The introduction of the object as perceptive cognitive concept rising from and always embedded in the context of mediated manipulation.
2. Given the circumstances inevitably it had to be followed by the ability to initiate displacement in the imagination opening the floodgates to new possibilities and a new be it imaginative realm of experience.

Remarkably the human experiences a gap, an abyss even in relation to other organisms. However, biologically man is not radically different from the last common ancestors. Leaky's quote that man is the fifth ape – doing things differently might be taken literally.

Rounding up, the article discussed refers to a grammar of action to be understood as a series of discrete operations when stone knapping but it also promised to relate this to general intelligence, in short a bottom-up approach. It did not meet that end.

The alternative presented addressed the problem the other way around. The attention got focussed on a larger level incorporating the fashioning of nodules into stone tools without an analysis of the operations in detail, a top down approach.<sup>192</sup>

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<sup>192</sup> In accordance to academic practice, I could have added footnotes in abundance. I preferred not to do so and only to introduce a note when it enriched the information offered.



## 6. The remarkable character of Western thought

### plus illustration

*The meaning providing frame of reference characterizing Western thought*

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## Abstract

The Western way of thinking is so omnipresent that it is taken to be universal, the natural way of understanding the world. The first part of this contribution argues that it however is quite particular, the characteristics relatable to specific historic circumstances which will be pointed out. The second part aims to show that the hype around the effects of the mirror neural workings can be understood against the historic background provided in the first part.

## Part one: The remarkable character of Western thought

*This is the first part of a diptych. It unfolds a general frame and focuses historic particularities. The second part will offer an illustration by putting the hype about the workings of the mirror neural system into the perspective described in the first part. Both contributions can be read independently.*

### 1. Introduction

This contribution will only focus to patterns underlying and by this characterizing Western thought. Some clarification of the concept of meaning from the point of view of biology will provide a stepping stone. The further added dimension made possible by the use of second order stimuli will be added. This dimension renders points of view which differ in content or storyline but not in the way these are produced technically. That refers to the very operations needed to bring forth the version. In spite of being equal in that respect it is remarkable that on the level of the content – the story or version brought forth – some become appreciated highly while others are discarded as just so stories.<sup>193</sup>

It should be noted that each version has patterns organizing thought and by this guiding it in a particular direction. This exposition focuses on the chalk lines constituting the blueprint underlying Western thought.

### 2. Meaning

#### *a. A problem*

When meaning is getting mentioned it seems something which has been added. An event or a thing *has* or *acquired* meaning. Another characteristic is that it seems to suggest only one type of meaning. All this while the approach that something *receives* meaning is the most recent (and cultural) phase in the whole of the (mainly biological) development which, it should be noticed, only can be observed in the line of the human species. None of the other non human animals holds the conviction that something has meaning. This requires some clarification.

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<sup>193</sup> By way of illustration in some circles scientific explanation is often appreciated quite high while New Age explanations are not. Some are taking religious inspired versions very serious, others do not.

### *b. Meaning as an inevitable condition*

With some exaggeration in everyday language meaning seems to be something which can readily be acquired from the scene exposed in front of every observer. It seems to be something which can be caught and possessed, available to be attributed to some thing or event on a later occasion.

From the perspective of biology it is the organism taking the central position, the centre of the Umwelt, not something over there. By its bodily characteristics providing abilities and by the condition of the primary motives of the moment, the organism instantiates or rather emanates meaning. This way meaning is not something out there to be acquired, but a condition the organism is in. Meaning collapses with being. As such it is inevitable as an organism not being in that type of condition does simply not exist.

On closer inspection the word meaning itself is superfluous. But it should however be maintained because there is need of some label to indicate what is talked about. The latter necessity may provoke the conclusion that something – on the level of biology – exists in its own right. It should be clear that it is no more than a dimension or an aspect of the general condition mentioned. It is only from the human perspective that something becomes isolated and demarcated as an object allowing it to be discussed. Discussed could as well be understood as being manipulated.

### *c. Modes of that condition*

c1. A not human animal does not have the ability of making a choice. The body fully determines the condition called the world lived or experienced. The condition of the primary motivation determines the type of action to be taken. This dynamic unfolds within the framework of the actuality and the locality defined by both the abilities allowed by the type of the body and the condition of the primary motivation. It is bound to it.

c2. In line with the human coming into being, the manipulation of substitutive or second order stimuli allowed the provocation of an experience characterized by a displacement in space and time.<sup>194</sup> Over time this allowed to gradually bring ever more complex scenes in the experience. These also could be called scenarios, versions, discourses or story lines. This imaginative approach would increase the world experienced as such introducing a feeling being able to transcend the previously mentioned being bound.

### *d. The fusion*

It has become clear that two types of meaning occur. One is raised by the very fact of a particular type of body being alive, a condition shared with all other organisms. The second only raised by humans comes

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<sup>194</sup> The following helps to understand what is meant. Spoken words are physical implements functioning as stimuli to provoke in one's experience a displacement in space and time. Mentioning that I will visit my aunt who lives in Paris refers to elements transcending the actual and the local (aunt, will visit, Paris). Only the act of manipulating these physical implements occurs in the present and the local. For an elaboration: Gilbert, J. 2018. The Forgotten Transition.

down to a meaning getting attributed by the manipulation of second order stimuli thus provoking a displacement in space and time in the experience. This is the moment to merge both types.

The core of the development is that on top of the biological orientation, the first type mentioned, a supplementary ability became available. In the experience however both fused into one occurrence discarding the difference in source.

### **3. From a technical vantage point all versions are alike**

In the previous lines a technique has been pointed out allowing to project meaningful versions onto the environment or considered from another point of view: to implement onto the experience. It is important to realize that at the heart of this lies a “narrative producing ability or rather skill” bringing forth products – storylines – of which the make from a technical point of view is similar. One particular story is only the product of that ability just as any other story is.

This could be called the constructive stepping stone.

### **4. On the level of semantics stories are different**

It has been made clear that from a technical point of view all stories are products from one and the same skill and by this equal in make. They all are projections referring to displacement in space and time.

But on the level of appreciation of the content suggesting a particular scene or storyline, this similarity seems to have gone lost. Some content is considered pure fantasy not to be taken serious at all while some other content enjoys the status of an absolute truth, at least a gateway to it.

### **5. The Western world**

For the Western world roughly two periods are distinguished. The first is often recognized as the mythical phase, while the second is introduced by the expressions of what has been called the philosophers of nature.

From the point of view preferred in this contribution the first period is the one in which the earlier mentioned skill gives rise to an act of articulating the fact of existence, going with what in philosophy is known as naive realism. The second is characterized by the problematization of a particular theme from a perspective of consideration. This might sound vague needing clarification.

In the first case the application of the method mentioned is an act and as such part of daily existence in exactly the same way as any other act is. Think of a child calling his mother. He is not in advance considering “there is a woman over there which is called ‘mother’”. In the experience the call “mother” collapses with the woman and his need for her to approach. Or take the difference between presence and likeness as another example. For a believer a crucifix is not a picture but a sign expressing the presence of God. Take the bulla in clay found in Mesopotamia. These are not simply references to a transaction but part of the very act in the same sense as a written promise is more than a sheet of paper covered in writing. In the same atmosphere speaking is to be taken as a mode of action being part of all other actions constituting daily life. Karin Verelst expresses this quite aptly: the pre-Socratic’s utter *that something is*, in

Greek “*hoti estin*”. This condition is what I prefer to call “articulation of existence”. The “*ti estin ti*” characterizing the later period presupposes a distinction between the act of commenting and that what is the subject of the comment. There are no signs of a structure like this in the period of the pre-Socratics.<sup>195</sup> At the heart of the second period lies a two world model. Some theme is offered for discussion whereby two perspectives are at offer. One is based on sensory input providing disputable data while the other making use of reason – recall Plato – opens the gateway to a truthful depiction of reality. This is somewhat brief but sufficient for the aim set in this contribution.

## **6. The problem**

If the perspectives presented in both periods from a technical point of view are equal, the question arises on what ground one might be preferred over the other?

## **7. The stepping stone onto the difference in appreciation**

This has been discussed in other contributions such as “On Meaning”, chapters 5 and 9 in particular. In summary it comes down to the following. In the transition of the 6<sup>th</sup> to the 5<sup>th</sup> century BCE there are signs of the introduction of the invariable as a new concept. Only the fact of the introduction matters here. There have been suggestions about probable causes such as by Geoffry Lloyd pointing out the need of an independent criterion to settle discussion. After all if language only is an act partaking in the ensemble of activities, there is no reason to assume that one argument is more decisive than any other, hence the need for an independent criterion. Graham Harman in turn refers to a surplus yielded by agriculture as such installing a constant presence, a condition absent in the dynamic life of hunter gatherers.

But whatever the cause, the acceptance of an invariable instance provides new ways of organizing and ordering thinking.

It deserves to get stressed that the introduction of the invariable is far more than a historical anecdote. It is a concept present in actual Western thinking on a fundamental level. What is it about?

The introduction of the invariable makes something characterized by an independent character present in the world allowing to evaluate opinions and positions taken. So it is getting accepted that there is indeed something, an instance, a quality, a condition completely independent of human existence and in that capacity allowing the evaluation mentioned. That is the idea in the background.

Take a contemporary discussion in ethology on the degree of intelligence of a chimpanzee compared to that of a human. At first sight there is nothing particular to it. But recall the character of the invariable independent of human interference. In the discussion amongst ethologists “intelligence” is taken exactly in that guise i.e. there is something out there which could be taken as an independent instance “intelligence” and allowing to evaluate the degree of it showing in humans in contrast to that of chimpanzees.

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<sup>195</sup> Verelst, K. 2006. De ontologie van den paradox. Doctorals dissertation.

One might be tempted to recognize in this a particular case of the Platonic “idea”. But that is only a representation of the invariable. Of importance is the introduction of the scheme or pattern of the invariable, a pattern remaining present in the actual thinking.

It also seems to suggest that a quality like intelligence does actually not exist at all. The point of view taken is that it indeed is a qualification construed from a human point of view but going into this would lead to far of in the actual discussion.<sup>196</sup>

## 8. The reorganization of the structures of thought.

This will become clear against the background sketched in the previous part on the articulation of existence. It speaks for itself that in that stage matters also became discussed. It could and it cannot be avoided as it is part and parcel of the structure of language itself with the manipulation of “objects” (stimuli of 2<sup>nd</sup> order or carriers of associated meaning) at the core of it<sup>197</sup>. But what became discussed then was part of an action such as prescribing rules to follow, manipulations to be executed or a record of merchandise as part of a transaction.

In the subsequent stage the invariable “that it is” (*hoti estin*) became introduced. By this something - a condition which so far did not exist - is getting established. This is the very first fact and the breakthrough. But to this intervention more is involved. By installing the invariable a semantic tension comes to life.<sup>198</sup> It unavoidably implies the suggestion that also instances of variable character have to exist. That is the second point. And this reaches much further than what appears on the surface. Take the term ‘infinite’. This might well suggest that there is no end to it but it seduces to the probing question what might exist past the idea of ‘infinite’.<sup>199</sup> In itself a quite senseless question as infinite is what it expresses: without an end. By definition it rules out something further. All this however introduces a structure of duality and with it dualism - as a basic organizing pattern - enters the scene. I will come back on that later but first we take a step back to the introduction of the invariable. It not only provokes the question into what might not be invariable, it eventually seduces into yet another question: what is the nature, the essence, the character of that what is (invariable)? *Hoti estin* becomes exchanged for ‘*ti estin ti*’ (what is that that what is?)

This is different to the execution of an act, different to the pure articulation of existence. At this point, that - of which is said - that it is, becomes addressed in a position of confrontation.

It follows from the introduction of an invariable instance *there somewhere in front of us* and as such takes the same character or rather position.

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<sup>196</sup> For an elaboration on this: J.F.R Gilbert, 2021, *The Human Condition* (e-book); also the separate contribution “On the human condition” (Researchgate) in particular the parts on anthropomorphization.

<sup>197</sup> Recall the technical dimension.

<sup>198</sup> On semantic tension: suppose the word milk is coined. This provokes spontaneously the context of farming, milking cows, calves etc and not other contexts such as coal factory, fishing etc. This is an example on the content but the same goes for structures. Introducing a straight line provokes the conclusion that not all lines are straight.

<sup>199</sup> Who never got seduced on the infinity of the cosmos pondering the counter intuitive question what might be beyond this all?

It becomes subject of questioning, a theme of investigation, it acquires the character of being a problem *there somewhere in front of us*. This move could be called the arc of problematization, a completely new stance, on the level of meaning a new relation to what is around. Something becomes introduced as a problem and considered as from a view from above – hence the “arc”. The exploring character of the Socratic questioning as a strategy offers a real life illustration. On the level of providing the world with meaning, of understanding the world, in short of semantic, it exposed a style and an accompanying perspective not practiced earlier.

Overlooking the different answers given by philosophers of nature, culminating into the versions offered by Plato and Aristotle, distinct lines become clear. Some discern an answer quite directly in what is perceived. Others distrust impressions of that kind and consider these as a play of shadows (Plato’s allegory of the cave for instance). The defenders of the latter option suggest that special methods are needed to obtain true sight. The pattern of dualism mentioned finds application in the distinction between being and appearing, being and becoming, false and true.

That pattern still turns up in more recent times. Take the idea of a symbolic order in which man is said to be caught if not trapped. Even if this might get denied but still an item in the discussion, it still implicitly acknowledges another order or world doomed out of reach.<sup>200</sup>

Is it not remarkable that in the same period evil taking the form of a real life enemy – the neighbouring warring tribe for instance, gradually becomes replaced by the Zoroastrian idea of an abstract form of good and evil, not only pointing to something *invariable* existing out there but of importance in this case: a structure of dualism again. Also in that period the breath of life escaping the human finds conceptualisation as mind and again in distinction to the body as its companion part in a dualistic ordering.<sup>201</sup>

These are some of the most central chalk lines constituting the blueprint underlying an ordering Western thought:

- the introduction of the invariable instance<sup>202</sup>
- the question into the nature of that what is (invariable)
- making it a problem to be scrutinized
- by provoking that what is not (yet), imposing dualism
- in looking for an answer distinguishing appearance from being (truth from appearance)

Alfred Northrop Whitehead once observed that Western philosophy is but a footnote to Plato. Heidegger in turn argued that Plato single-handedly put Western philosophy on a dead-end path that it had been following ever since. But this idea might be taken further: the Western way of thinking is a heritage of the turning point marked by the ideas of the philosophers of nature. Plato is but one particular be it influential application of this flow.

This is not a critique on the character of the Western way of thinking, only an unveiling of its basic ordering principles.<sup>203</sup> It should be noted that precisely this way of thinking leads to what became

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<sup>200</sup> As the denial of a divine instance by an atheist still holds the confirmation of it.

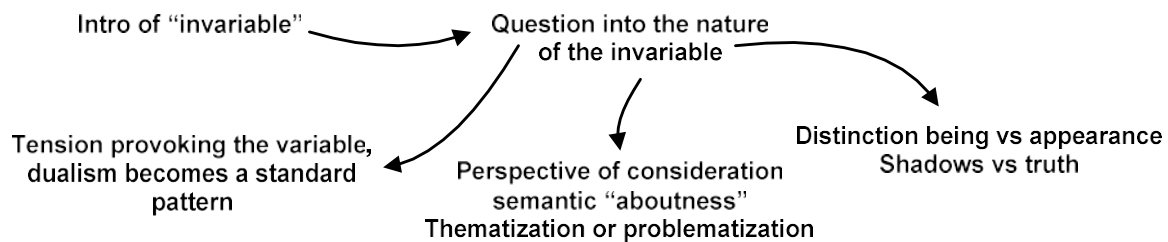
<sup>201</sup> For an elaboration on this, Gilbert, J. Unveiling the mind, sub “Mind what are we talking about?”

<sup>202</sup> Leading to categorization on the basis of attributes different from Eastern thinking falling back on dynamic relations, events and the importance of context. (Nisbett, R.E. 2003. *The Geography of Thought*. The Free Press.



accepted as “the scientific approach and practice”. On the other hand it should also be observed that the intersection – should one not rather speak of an aberration – of mind and body came into being in that very same atmosphere. In that sense the more than often blamed Descartes for this, is no more than an exponent in a since long persisting line of thought.

If critique rightfully might be in order it should be addressed at the idea that these ordering principles are expressions of a natural kind instead of what they really are: historic contingencies against the background of a technical skill.



## 9. Synopsis

Meaning has two sources. On the level of biology life and meaning are collapsing. There is yet a form of meaning produced differently: by the manipulation of second order stimuli provoking in the experience a displacement in time and space. However products of this procedure are from a technical point of view similar, the content or the story brought forth can be appreciated differently. There are versions like a scientific explanation (version) which are taken serious; religious beliefs on the other hand could by the same group of people become appreciated very different. This remarkable difference provokes the question into the chalk lines of the way of thinking which is taken seriously, even to a degree that these are considered to bring forth the only true at least trustworthy interpretation.

### Note

The attentive reader will have noticed the venom in the tale: true versus trustworthy.

The idea of a true version is in accordance with the approach in which a reality correspondent depiction can be obtained. That a version is trustworthy fits the suggestion that it actually is instrumental in the negotiation of the Umwelt – in particular successful to it and so can be trusted to be effective in future use.

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<sup>203</sup> The characteristics mentioned are basic however there are more patterns present in and typical for Western thinking. Take the cause-effect scheme which is a particular application of the question into the essence or the nature of things. The teleological scheme is akin to that. Holloway for instance expresses that language *had to come* into being in order to answer the problems raised by an increasing number of tribe members. In that perspective language did not follow from changed circumstances but was in a sense premeditated in order to cope with a problem. In this a prior intention is assumed. In respect to “cause” observe that the classic Greek “aitia” as used by Aristotle rather refers to explanation. The contemporary meaning - looking for the cause in the sense of an origin – dates from the period of the mechanics of Galileo. In that respect that particular pattern or way of understanding is quite recent but nonetheless quite dominant in Western thinking.



## Part two: the remarkable hype about mirror neurons

*This is the second part of a diptych. While the first holds an overall frame of reference on the basic principles organizing Western thought, the second will offer an illustration. It will make the hype around the workings of the mirror neural system transparent against the background of the framework mentioned. Both contributions are set up in such a way that they can be read independently.*

### 1. The problem setting

There is something weird about the hype about the workings of the mirror neurons. It looked as if to until then obscure effects all the sudden became transparent. Therefore the qualification 'remarkable' in the title is not about the said workings but about the excessive expectations. How are these to be understood?

### 2. Some explanation on mirror neurons

The workings of these motor related neurons have been discovered by David Perrett in the early eighties of previous century. His findings fell into oblivion until about ten years later this phenomenon got rediscovered by accident in experiments conducted by the FARS-group. This acronym refers to the members being Fadiga, Arbib, Rizzolatti and Sakata. Again the observed findings surprised and gave rise to wild speculation. The workings would for instance, as got suggested by Arbib, offer the stepping stone into the language ability, a bold assumption to say the least.

What was actually going on?

The experiment organised focussed on the activity of single motor neurons in the brains of apes. Accidentally preparing the setting, an assistant noticed that the brain of an animal already connected to monitors showed spikes when that animal actually observed the assistant manipulating an object (as far as I recollect it was the manipulation of a nut; strikingly when dealing with animals it is always about food).

So, particular neurons of an ape at that moment unable to do something got excited when observing the action of some other individual, in this case the lab assistant – and now the crucial factor: as if he was executing the action himself. His brain mirrored the action of the other, hence the label mirroring neurons, in short mirror neurons.

In relation to reports of experiments such as these it is wise to discern two levels. On the one hand there is the pure technical report of the setting organised, the operations executed and the results in terms of measurements. On the other hand there is the unfolding of interpretations of the findings.<sup>204</sup>

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<sup>204</sup> It should be noticed that even on the level of the technical report a complete independence does neither occur. As Kant in the 19<sup>th</sup> century already observed "(...) reason has insight only into what it itself produces according to its own design (...)" (Kant, Critique of pure reason, BXIII). Or as Huxley formulated: one can only pull out what has been put in in the first instance. But of importance here is that the first mode mentioned restricts itself to describing the operations executed and the way measurable results got acquired.

Concerning the first, without any doubt the observation may be called remarkable. It reminds of the research conducted by Liberman and Mattingly in 1985. They observed that in the act of decoding speech not only the audible words were of importance but that also that the visual input on the movements made by the mouth of the speaker played a role. Observe that it is all about the decoding done by mirroring the mouth motor dynamic and not about understanding what has been said. The latter requires an extra coupling semantic in nature.

Back to the mirror neurons. On the level of interpretation the results found gave rise to wild speculation. Without any degree of reluctance it became taken as a mode of direct understanding.

The ape, so was said, understood what the other did and this on the basis of the workings of these miraculous neurons. The difference between mirroring and understanding has already been pointed out. What to think now about “direct understanding”?

Does the activation of neurons in the brain of the observer imply understanding? In an earlier discussion on this subject, two problems have been pointed out<sup>205</sup>

- a) That type of activation occurs blind or automatic; there is no consideration whatsoever of what is going on (compare to the movements realizing the act of walking or swimming or even speaking)
- b) It provokes symmetric forms of behaviour (the ape is driven to execute the same movements); the behaviour produced is not complementary or answering which would convince that the animal had some understanding of what was going on.

So for some background explanation on the phenomenon and some cautionary remarks.

### 3. The question

This poses intriguing questions: what caused all the fuss? Why provoked it the wildest speculations? What fired up the exaggerated expectations? It seemed as if veils evaporated and until then mysterious features became fully transparent, at least the findings seemed to hold the promise of making these transparent. As mentioned, Arbib went so far in suggesting that these workings provided the stepping stone into the faculty of language understanding.<sup>206</sup>

### 4. The mainstream context

The said appreciation takes place in a setting characterized by cognitive isolation in the sense coined by Von Glaserfeld as encased isolation.<sup>207</sup> This condition is taken for the natural occurring condition. The human is seen as a psychic and cognitive private island, an autonomous unit amongst other units of the

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<sup>205</sup> Gilbert, J. 2004. De cognitieve dimensie van bewustzijn en het belang van de spiegelneuronen. Doctoraatsverhandeling.

<sup>206</sup> A defect in the workings of these neurons might contribute to some forms of autism as suggested by Williams, J., Whiten, A., Suddendorf, T. & Perrett, D.I. Imitation, mirror neurons and autism. If mirror neurons play a direct role in observable behaviour, autism might be a good candidate.

<sup>207</sup> He claims that people live in their own private world. Language allows interpersonal communication but it does not allow to escape the condition of closedness. Von Glaserfeld. 1995. *Radical constructivism: a way of knowing and learning*. London: the Falmer Press. On how this idea historically came into being: Gilbert, J. 2021. *Unveiling the Mind*. Sub 2: *Mind, what are we talking about?*

same kind. Making use of means they are able to transfer information, but they cannot infiltrate the mind, broader still the experience of the other.

With the introduction of the concept of a theory of mind (ToM) by Premack and Woodruff in 1978 there are suggestions about how one individual is able to render an “image” on the mental condition of another person, but none shattered the condition of being enclosed to pieces. In the generally shared view man remained a closed container, a condition taken to be natural.

“But, is that not the case then? Is man indeed not an enclosed and private island?”

This question itself is imbedded in the logic of that condition, it actually expresses it. By simple posing the very question the condition is getting confirmed. There is a fallacy which I have called “the fait accompli”. Take the following question “Where have you been yesterday afternoon?” At first glance it seems quite normal but it implies in advance that ‘you’ have been somewhere yesterday afternoon while this quite possibly was not the case at all. In the same way the question “is man not in a condition of encased isolation?” can only be formulated with the idea in mind that such a condition indeed occurs.

Other questions are far more appropriate such as: “What is the image of man underlying the suggestion that such a condition occurs? What circumstances actually gave rise to that very idea?”

The first thing coming to mind is that fact of holding that assumption gives expression to an awareness of a condition of that kind. It is not a “just so” expression. It indicates a realizing, a knowing that. Something is getting taken to be a subject in the act of knowing. This might all seem to be very trivial; the importance will become clear further.<sup>208</sup>

Further and against the background of mainstream thinking it will be accepted that this awareness originates from the discovery (dis-covering) of a condition which in a quite natural way is already present. The consideration that this might well be a particular pattern organizing thought, a pattern imbedded in a historic context, does not come to mind at all.

So, a problem finds introduction and that becomes object of questioning.

Following that line of thought, any contribution offering an answer to the problem – here the enigmatic condition of encased isolation – becomes considered somewhat magical. Moreover in the actual case the interpretation is based on observable and recordable neuronal firing patterns fitting perfectly the requirements of scientific investigation.<sup>209</sup>

The approach where something is getting dis-covered is neither a natural point of view. It fits the naive realistic perspective on a world already present over there neatly ordered and available for dis-closure by an independent observer. Quite strikingly, this condition seems to be reserved to man only.<sup>210</sup>

However considering ideas such as offered by J.S. Mill explaining that science only shows that certain effects follow from certain causes, ideas from Bridgeman who for lack of better had to fall back on

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<sup>208</sup> Anticipating it is about what will be called the arc of considering a problem. It entails a stance of consideration, a subject to be considered and that subject taking the character of a problem. More on this later.

<sup>209</sup> Galileo comes to mind: measure all that can be measured and make measurable what until now not could be measured.

<sup>210</sup> Here another scenario appears: man as the chosen one (by some divine instance). But this one will be disregarded in this contribution.

operational definitions, of Poincaré drawing attention to the fact that definitions are based on conventions, of Brouwer that mathematics is the product of mental activity (intuitionism), of Nils Bohr underlining that science does not depict the world and from Hawking who in his book composed with Mlodimow ascertains that science merely offers models, Kant then does not even has to be called for support by arguing that phenomenon only obtain the form shown under the influence of the structures of the mind. Concerning the latter, stressing the determining role of the body would be preferred but in the end it points in the same direction.

In short, constructivism seems to stand strong. Just by the fact that less has to be assumed, it offers a more plausible approach than naive realism.

But this does not answer the question on the origin of the depiction of man as an enclosed island.

Arguing that man is in that condition comes down to the formulation of a problem, a problem evidently asking for an answer. This approach can be recognized as a particular twist or a gesture introduced around the transition of the 6<sup>th</sup> into the 5<sup>th</sup> century BCE in the region of the Aegean Sea, broader the Mediterranean, including parts of Italy. This subject has been elaborately studied by authors such as Clagett, G. Lloyd, DeLey, Onians, Snell, Heidegger, R. Parry, Crome, Hadot, Descola and Nisbett to name a few.<sup>211</sup> The introduction of 'that what is' (invariable) lies at the heart of what marks the turn. The authors mentioned sketch out the historical background.<sup>212</sup>

Of importance for the actual exposition is the acceptance of the invariable provokes the question into what the essence of it, its nature or character could be.<sup>213</sup>

But let us keep the content of this question in the background for a moment and focus on the pattern. Some – invariable - thing is taken to be the theme that will be experienced as a problem provoking scrutinizing in order to formulate an answer. This pattern does not appear as such in mythical thinking. Quite naturally there were problems occurring to. But they were practical in nature: how can x be made, how can a mob get under control, how does y have to be repaired... The type of problem appearing in the turn of the 6<sup>th</sup> into the 5<sup>th</sup> century was very different in kind: the nature of things became questioned. What is (the nature of) justice? What is (the nature of) friendship? What is (the nature of) the most fundamental matter? The latter provoking a flood of possible answers such as earth, fire, air, water, apeiron, numbers, the flow etc.

Whitehead once observed that the history of Western thinking is no more than a footnote to Plato – the latter precisely offering a particular answer to the question mentioned. This idea may be formulated more radically. Not only Plato's contribution, but the whole of Western thinking rises from the formulation of a problem and the endeavour to find an answer.

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<sup>211</sup> For Heidegger the analysis of Greek terms in *Einführung in die Metaphysik* (1935) is recommendable. Nisbett does not discuss Greek terms in a direct way but compares approaches proper to Western thinking with variants typical for Eastern culture and is therefore of particular interest.

<sup>212</sup> In that period a whole new range of concepts came into being. For the introduction of the concept of "mind": Gilbert, J. 2021. *The 5<sup>th</sup> Ape* (e-book) chapter "Suddendorf, mind what are we talking about?".

<sup>213</sup> It needs to be stressed that the whole of Western thinking precisely turns around finding and formulating an answer to this.

It is exactly this move that allowed an awareness of a problem as earlier mentioned. Again, the problem is not a natural occurrence; it is a historic incident particular for that region and that time, not in the same sense appearing in other regions.<sup>214</sup>

This is the linchpin underpinning the blueprint discussed in the first part “The remarkable character of Western thought”. The tracks and patterns of thinking adopt specific forms different to these characterising mythical thinking, which I preferred to call articulations of existence. Every textbook on philosophy mentions that difference but always as a linear sequence whereby the thinking of the philosophers of nature seemed to be a further – in the sense of more perfect – development than the “primitive” version of thinking characterizing the mythical period.<sup>215</sup>

From the technical point of view however one discourse as a product of provoking displacement in time and space is as good as any other brought forth making use of the same technique. If there is a difference to make – and there is – then is it that the version composed by the philosophers of nature would bring forth a way of negotiating the environment which would be extremely successful.

The thought however that this effect would justify the presentation of dis-covering the world, bringing man closer to the world as it really is out there, is reminiscent of the answer Plato would provide. He points out an objective ultimate truth, suggesting that the wandering man misled by the senses when making use of the proper method, would anyway be able to reach that goal.

But it will be clear that dis- or uncovering reality – whatever that may hold, and successfully negotiating the environment are two different matters altogether.

## 5. The hype about the mirror neurons

Rightfully the question arises what all this has to do with the mirror neurons, in particular the hype about the workings?

Referring to thinking, it often seems some activity taking place in thin air, characterized by an immense creativity unfolding in a limitless area. It is beyond the scope of this contribution to elaborate on this matter but in the end two factors play a role.

In first instance, bringing meaningful content(s) in the experience should be mentioned.<sup>216</sup>

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<sup>214</sup> Reference to Nisbett already mentioned.

<sup>215</sup> At this point there is actually an anachronism in play. Did the people of the mythical period had the endeavour to explain the world in the sense understood by the philosophers of nature – as a problem to be answered? For a discussion: Gilbert, J. 2021. *The anthropomorphic peeping hole, on the importance of projection*. There is yet another observation to make. Plato suggests a final condition of truthful depiction which can be reached by the use of the right method. This has to be considered as a pattern: there is an ultimate goal at the end and every attempt prior to that is primitive to a degree. That is a top-down perspective from the goal to obtain as decisive criterion. This draws the blueprint of “progress” as the holy cow of modernity (did medieval knights consider progress?). But another way of looking at things is also possible: bottom-up. Myths and versions produced by philosophers of nature are both stories, technically the one not different from the other. The only difference is not what type of story depicts truth but what story allows negotiation of the Umwelt more successful?

<sup>216</sup> For an elaboration on this subject Gilbert, J. 2021. *The construction of cognitive abilities in the crossing of exisistence*.

Secondly, the ordering of scenes of that type into a storyline and while doing this taking a particular point of view. In case the actor or story provider restricts to expressing some content, this could be called centric.<sup>217</sup> It becomes decentric in so far the actor takes a stance of consideration. The position taken can be different from one cultural group to another, even within one group overtime, even within the same window of time.<sup>218</sup>

So far for some clarification, turning back to what matters here.

The mythical mode mentioned earlier, comes down to what I prefer to call the articulation of existence. As a speaking illustration, think of a young child calling for his mother. The child does not consider the person. He exerts an action intervening in the life of someone else. The perspective taken is centric.

As mentioned around the transition of the 6<sup>th</sup> into the 5<sup>th</sup> century BCE a reorganisation in the style of discourses or story lines occurs. A structure posing a problem to be considered is getting introduced. Over time different answers become offered. This can be schematized presenting two components:

1. a pattern in which an observer finds himself confronted with a problem and as such depicts a decentred organisation: metaphorically presented the observer looks down at a problem and is invited to produce an answer;
2. a flow of possible answers i.e. storylines

The pattern itself received already a lot of attention. Of importance now is the development of the answers produced because their content constitutes the image man holds on oneself. For understandable reasons only major moments will be pointed out and these even quite roughly.<sup>219</sup>

With the "Greeks" a development takes place in which gradually particular appreciations become installed in the common understanding. This refers to depictions man has about his nature, depictions taken to be self evident.<sup>220</sup>

1. The introduction of "that what is" (*hoti estin*), the invariable, a semantic tension provokes a complement: that what is not or not yet. This installs the scheme of duality, a pattern which seems engrained in our actual life. But as it follows from the mentioned introduction is a historic coincidence.
2. Gradually the concept of mind comes into being.<sup>221</sup>
3. Urbanization forces people to live in close contact. This condition is also characterized by a diversification of social and professional roles. All this drives the individuals into an intensification of self control, slowly taking the form of interiorization.<sup>222</sup>

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<sup>217</sup> This is on the level of semantic aboutness, differing from technical aboutness. This distinction is not relevant here and would lead to far off. For further discussion: Gilbert, J. *On the human condition* (e-book), in particular note 40.

<sup>218</sup> Take a believer accepting a divine instance and the critical philosopher next door putting everything in question.

<sup>219</sup> A more elaborate contribution on this can be found in *"The remarkable particularities of Western thinking"*, chapters of *"The 5<sup>th</sup> ape"* such as *"Thinking in and out of the box"*, *"Script"*, *"Suddendorf, mind what are we talking about?"*, *"The construction of cognitive abilities in the crossing of existence"*.

<sup>220</sup> Husserl speaks of *Urglaube*, Merleau-Ponty of *Urdoxa*. Schopenhauer refers to an innate realism. Arthur Fine calls this condition the natural ontological attitude. For a discussion: Deleuze & Guattari, 1994. *What is Philosophy?* Columbia University Press.

<sup>221</sup> For discussions on 1 & 2 cfr. Clagett and the other authors mentioned earlier.

<sup>222</sup> Cfr. Norbert Elias, *The Civilizing Process*; for a clarification on similar processes in later period, reference to the historians grouping around Philippe Aries. Also the work of the historian Robert Muchembled is recommendable.



4. The previous changes lead to an experienced condition of privatization in which only the individual concerned has access. That privileged condition testifies of a rich inner life. The encased isolation mentioned in the introduction is getting imposed.<sup>223</sup>

This way a depiction of individuals as isolated or better still encapsulated isles, able to transmit signals but not to really partake in the private feelings and thoughts of others takes shape.

But what is the problem raised by a depiction of that kind?

The fact that individuals finding themselves in that condition are able to understand one another can only be appreciated as magical. Locke speaks of an act of telementation, minds with the character of thin air being in contact.<sup>224</sup> That is the problem. Remember that this type of representing matters got introduced in the period of the philosophers of nature.

On the scene appear the said mirror neurons engaging in resonant excitation in case actions executed by other are getting observed. This white rabbit offers the final eliminating explanation.

Remarkable is not so much the workings of the mirror neurons but the fact that these workings taken for an answer to a problem are enjoying extreme attention and positive valuation, a fact only becoming clear against the background of the depiction of the human as a case of encased isolation. The latter, as has been made clear, is not a natural event but a historical construction.

Concluding: the said hype can only be understood against a specific historic background.

Does this contribution express critique on the workings of mirror neurons? Does it criticize the specific pattern of problematization that since the “Greeks” governs the thinking in the Western hemisphere?

Not at all!

The usefulness of the workings of mirror neurons has been discussed extensively earlier.<sup>225</sup>

Concerning the pattern organizing and guiding thinking, what else than stressing that it is precisely because of it that scientific practice could come into being. This can be understood as a particular and rigorous application of it.

This contribution has two objects. In first instance offering as brief as possible a historic background allowing to understand the mentioned hype. Secondly unmask the exaggerated valuation to its real guise: a speculative interpretation based on a historic depiction of man.

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<sup>223</sup> For a striking elaboration: Toulmin, 1979, The inwardness of mental life.

<sup>224</sup> Locke is to situate in the 17<sup>th</sup> century. But even in the 20<sup>th</sup> Jackendoff writes “To put it bluntly, a sound wave on its own is meaningless, it is meaningful only to the hearer equipped with the proper mental grammar”. This provokes the conclusion that something in the brain must be present allowing understanding. This implicitly suggests a radical abyss between individuals which in order to understand have to fall back on some mysterious instance called mental grammar (whatever that may be). Jackendoff, R. 1994. *Patterns in the mind*. P.161.

<sup>225</sup> Gilbert, J. 2004. *De cognitive dimensie van het bewustzijn en de spiegelneurale effecten*. Doctorals dissertation. University of Ghent.



## 7. In and out of the box

*Taking Darwin serious & a perspective on the basic patterns of everyday understanding*

Essay

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## Abstract

The Western culture is characterized by a set of fundamental beliefs underlying a common sense as well as a scientific understanding of the world. Most of the theorizing germinates from out and develops within the borders of it. It embodies a style of reasoning which rightfully could be coined "thinking within – the confinements of - the box". The first part wants to expose some of these beliefs. The second part explores what an understanding of the environment of the human as an animal could be when taken the implications of Darwin's approach serious. It in broad strokes sketches out the condition serving as the stepping stone into a development of the human skills we are familiar with. The demystification on the one hand, the sketching of the initial condition on the other, both approaches hope to help a way of thinking out of the box.

"The tendency has always been strong to believe that whatever receives a name must be an entity or a being, having an independent existence on its own..."

J.S. Mill

"We have to make use of language, which is made up necessarily of preconceived ideas. Such ideas unconsciously held are the most dangerous of all"

Poincare<sup>226</sup>

## Introduction

A quote in a webinar inspired this contribution. The professor in charge judged that for an idea to be taken serious it should fit in the established or generally accepted body of science, that corpus of knowledge on which exists consensus in the academic community.

That makes sense. One should be reluctant to accept any type of new wave or all too high metaphysical speculation. But at the same time no attention seems to be paid to the risk of that recommendation. A suggestion fitting accepted science also accepts the prevailing framework without much if any reservation at all, historic biases included. The way the scholar in question shared this judgement sounded as if science is objective beyond suspicion and radiates a sphere of absolute neutrality. But for those who studied history of science and of philosophy, the fact that this is not the case is apparent.

Engaging quite blindly in a scientific perspective implies submission not only to its methods but also to its models of the world and accepted representations of nature.

This kind of orthodoxy has a flipside. It neglects taking into account particular historic biases and blocks possible creative insights, hinders thinking out of the box which amazingly enough often is getting praised by the orthodoxy following crowd.

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<sup>226</sup> Quotes mentioned in Ogden & Richards. 1923. The meaning of meaning. New York: A Harvest Book.

In these introductory lines I have mentioned that a way of thinking develops only within the borders of a set frame of reference. What I want to do is sketching out that frame of reference promoting to transcend the borders and by this engage in thinking out of the box. But in order to be able to appreciate the particularities of it more clearly I will start with sketching out some elements of the orthodox frame of reference. As for thinking out of the box, one should in first instance be aware of what is in the mainstream box; being aware of representations running in the background and constituting the mainstream understanding of the world.

But I should not delude myself. What will be offered also expresses a particular perspective.<sup>227</sup> The endeavour is to explore and unveil ingrained biases in everyday thinking.

It might be observed that literature criticizing the ins and outs of the scientific practice is ready available. Agreed, but the subject is often approached from a too narrow point of view, social construction for instance or feminism, development of paradigm's and the like. Moreover academic jargon not all that easy to digest is often used.

This contribution wants to focus on the most basic traits shared by many scientists but equally present in the knowledge of the public in general. I also want to be brief. One should not struggle with a hefty volume to obtain some insight in this intriguing subject.

Before starting some particularities need to be clarified.

The initial position is that of an organism confronted with an in principle chaotic influx which needs ordering into a meaningful scene in turn triggering a response. The condition the primary motivation is in and the particularities of the body provide basic meaning. Recurrent situations will consolidate responses into stable response patterns. In some species parents will learn their growing offspring useful behaviour and tactics. So far for the first level but that will not be the subject of discussion in this contribution. The focus will be on what specifies the human species that is the presentation of narratives providing a meaningful interface to the challenging environment. Leaving the initial condition out of the discussion, the human confronted with a chaotic environment projects verbalized interpretations onto it by this creating an ordered scene generating meaning in turn provoking responsive behaviour. This projection is not necessarily one coherent scene but in most cases will be a complex composition of different interpretations dealing with particular parts of the scene.<sup>228</sup> The idea is that the human is confronted with a conglomerate of interlocking meaningful narratives and the aim is to provide clarification on the historical roots of some of these.

This allows a second important remark.

In trying to raise a clear picture about how the human understands the world two entry points lay in front of us. One has been expressed along the previous lines: different narratives dealing with aspects of the challenge occurring form an integrated scene. In that case narratives are no more than indeed narratives, expressing versions and as such instruments supporting an understanding. The specificity of this will become clear with the next approach. With that it could be agreed that the interpretation is indeed no more than a narrative but a narrative which step by step approaches a reality corresponding depiction.

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<sup>227</sup> For that subject "Storytelling, setting the human apart"

<sup>228</sup> Dennett's suggestion of competing narratives or multiple drafts sounds familiar here.

The narrative will remain a narrative but will in the end reach a condition of a truthful depiction of the world as it really is out there, at least it will be appreciated as such.

That is actually not the path followed here and I will make clear on what historic grounds this appreciation came into being.

In short, the way we take the world as perceived as a realistic depiction is actually a composite scene of different pictures each of them with a historical provenance.

With some imagination the understanding of the world could be presented as a set of different scenes on a canvas constituting an overall picture or story. The trusting observer takes what is seen for natural. That is how things are. He seems to be unaware of the fact that these partial understandings drift on historical events constituting precisely the scene observed or rather lived. As said the aim is twofold. On the one hand unveil what is experienced as being the natural and articulate the contours so they become salient in the awareness. On the other hand offering a historic introduction as such clarifying that what is perceived is not a natural given but the result of historical events and twists.

## **Part I, the Western way or thinking inside the box**

### **No blank slate**

The goal in this contribution is to focus on schemes giving form to the Western way of thinking. There were however earlier changes also of profound influence on the way the world had and still is to be understood. For the purpose of illustration three examples will be on offer.

Agriculture is beyond doubt one of the most far-reaching. The possession of surplus changed the prior group hierarchy based on skills, age and the behaviour of alphas like in chimpanzee communities. It introduced possession and heredity as an organisational principle. It redefined the role of the sexes. These are not merely interesting remnants of times past but principles incessantly organizing the communal structure and dynamic to this day. They do not only organize the social structure but also flavour the appreciation of different roles inherent to it.

Writing is a second game changer. There had been associations between material implements and meanings earlier. But these were rather presences than representations. To clarify the difference take the case of the crucifix. Not one worshipper will think of it as a reality corresponding depiction of the man presumed to be the son of God. The cross stands for the divinity; it makes him present stronger still it emanates his presence. In a similar sense cave art should not be considered to be reports of hunting scenes. The animals depicted emanate their presence. But with the introduction of writing around 5.000 BCE the elements used in associations become stereotyped and systematized. As bearers of meaning they could be stored allowing to be transported over long distances or to transfer information overarching generations. Consider the consequences of the introduction of radio communication or even more recent the World Wide Web. The introduction of the distribution of written messages must have had the same impact on the understanding of the world.

Dualism as an organizing scheme will be the last example. In the present time it is often understood rather narrow as the opposition of mind and body. It is however a pervasive principle of organizing data. It divides the world in an inside and an outside, a visible and invisible, a tangible and not tangible, a good and an evil. It does not only order data but imposes principles of understanding. As such what is inside is not only topological different from what is outside, it might also be different in character. This scheme showed itself early in Zoroastrianism and in Manichaeism. Before that period what would be called moral today took a tangible form. Bad was the tribe invading and menacing the peace of the own group. In that sense evil was indeed quite tangible. With the religions mentioned good and bad became associated with divinities and people had to decide what side to choose as guideline for behaviour in the community. Good and evil became abstract principles opposing one another. Duality as a tension between values became an organizing principle and still is to this day. Take for instance the suggestion of reality opposed to the deception of the senses, a model going back to Plato. As an organizing principle it does not only organize consideration on that matter, it installs beyond discussion reality as the referent of the concept of reality. That is one aspect. The way reality as referent has to be filled or understood is another depending on historical determinants.

So the particulars which will be offered further did and do not start from a blank slate. They are built on organizing principles already present.

#### **Nisbett , East versus West – the introduction of the invariable.**

There is a remarkable agreement between the Taoist and Confusionist East and the pre-Socratic Greece. For both the emphasis was on finding the right way to live, a rather ethical and legislative inspired attitude. However around the 5<sup>th</sup>/6<sup>th</sup> century BCE something changed on the Greek side. Finding truth became prevailing, moreover by looking for natural causes and no longer for the supernatural as previous. This reorientation got according to Geoffry Lloyd (1970) fired up by the invention, I would prefer *introduction* of nature as an invariable instance present outside the subjectivity of man.

#### *Intermezzo*

*I would word it somewhat differently which does not change the outcome but depicts the initial situation more clearly. I prefer to call the period preceding the mentioned introduction as a condition in which existence is finding articulation. Speaking is not only an act of transferring information, but in first instance and above all a way of existing. It collapses with it. It is an instantiation in the same way as walking and taking a breath is.*

*And then a turning point occurs in which that way of being itself is becoming questioned. Three determinants could be decisive for this. One is the introduction of the invariable as criterion in order to overcome subjectivity as explained by Geoffry Lloyd. Graham Harman assumes something similar but caused the introduction of agriculture providing surplus which had to be stored and thus remained stable overtime in contrast to the dynamics characterizing hunter – gatherers. But the third element which is not getting mentioned is in my opinion the act of contemplating itself because contemplating consolidates what is getting focussed on – however it might be dynamic – into a solid form in a metaphorical sense ‘observable in a confrontation’. Think of Heideggers Dasein – that what is there (in front of us).*



*The transition from fully dynamic into a stance of contemplation can also be observed in the development of a growing child.<sup>229</sup> In the early stage it does not so much inform the other, it rather expresses himself, demonstrating a way of being expecting that the other under the impression becomes influenced by this. Only later the awareness rises of his role as an actor transferring information, aware that the other can accept but as well refute the content of it.*

*This tilt or this development deserved extra attention. It concerns a change in attitude from acting into contemplating. I have called this the introduction of aboutness on the level of semantics (in contrast to the level of technique; the first has to do with the trajectory of Western thinking, the second is involved in the process of becoming human characterized by culture).*

But once that instance got installed and accepted in the common appreciation a new question dawned: what is the character, the nature or the essence of that what is invariant? As such the invariable appeared in the way the world got questioned and understood. There was something invariable for instance in the category “tree” or “house”. Individual trees belonged to the same category with an invariable essence apt to be approached from a naturalistic point of view.

At this point Nisbett’s findings are getting sense.

He observed that in the Greek texts from that period invariable categories started to get separated from a context taking an isolated form standing on its own. That differed from the inclination in the East where the importance of relations and events remained dominant. Therein ideas were not evaluated making use of formal rules in order to find the truth as in the practice which started after Socrates, but got opposed one to another. The latter condition was precisely the one the debating pre-Socratics found themselves in and wanted to escape with the help of what Lloyd called the invention of nature as the invariable instance or probably a more proper qualification “criterion”.

The importance of this explanation is that it sketched out the particularity of the Western way of approaching and appreciating the world. It may be not the only possible version to explain what exactly happened in Greece<sup>230</sup> in that period, but it is a version trying to solve an occurring problem. With its concern for the invariable and its categorical characteristics it still is the underlying thread of the contemporary way of Western thinking. It structured that way of thinking in a definite way. Moreover Galileo’s scheme would not have been possible without it. But again: it is a particular way of framing things.

The moment has come to introduce historical scenes which from then on will guide the understanding of the world.

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<sup>229</sup> This agrees with the condition Wertheimer coins as “die gemeinsamen Schicksals”.

<sup>230</sup> As an indication for the relevant region around the Aegean Sea; Greece did not exist in that period.

### **Plato's ultimate reality**

Among the numerous attempts to offer an explanation on the essence of the invariable, recall Nisbett, Plato's contribution has been of such an importance that it provoked Alfred North Whitehead the observation that the history of Western philosophy is nothing but a footnote to Plato.

What does he refer to?

The well known allegory of the cave expresses the view that the impressions the senses bring forth are no more than shadows of what "*really*" is going on. Plato was sceptic of the truth value of the realm of the empirical. But this did not exclude man completely from the ability of catching a glimpse of the true world. Fortunately the soul before it took its place in a human resided in the realm of ideas, the purest condition of truth. So by the possession of a soul and the application of the right method – rational thinking – man could obtain a glimpse of reality as it really existed in itself.

This approach may provoke the idea that there is a proper method to capture a glimpse of reality but that is actually not the core of the presentation at the same time the underlying pitfall. The *mise-en-scene* is similar to the anecdote in which the suspicious spouse asked the husband "where did you meet her yesterday?" The where question veils the trap: the firm implication that he met her the day before. Likewise the promise to catch a glimpse of reality implies the existence such a reality; even if rationality would only render a depiction, it would none the less offer a one on one corresponding representation of reality as it is existing in itself.

With this Plato installs firmly the conviction of a truthful depiction i.e. knowledge. This conviction is to this day shared by many, not only naive realists, but also many in the world of science.

To articulate the particularity of this approach as clear as possible: it neglects completely the determination of embodiment.

The baffled remark "do you mean that the reality out there is getting questioned?" actually illustrates how deep Plato's suggestion on that matter is engrained in common belief. But the content of the question is not really the point here and as such does not have to be answered. The focus to be realized is twofold. In first instance pointing out the provenance of the idea of an objective reality which in turn provokes an effort to get some degree of grip on it. In second instance the very idea itself conflicts with the inherent restrictions of being embodied.

### **Galileo's move, a defining turn**

The figure of Galileo is the exponent of a new *zeitgeist* prepared by others like Oresme, Albertus Magnus and Roger Bacon<sup>231</sup>. Apart of thought experiments such as the falling spheres he also paid a lot of attention to the practical dimension thereby noting values on several intervals. This allowed comparing different settings or the same setting under different circumstances. The importance of that system cannot be valued enough.

It took place against an Aristotelian background whereby objects were considered as emanations of potencies driven to realization. The tone was one of dynamics. The world was a tangled web of turbulences emanating signatures or signs of the divine will and as such providing the perceived

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<sup>231</sup> Oresme, the world as a giant mechanic contraption; Bacon and Magnus, nature explained in terms of mathematics.

environment with meaning. Galileo's representation in the guise of numbers which could be compared provided a model allowing prediction of the results of organized technical operations. The world until then solely explained by the will of God became gradually controllable by practical human intervention. Nature became a book written in the language of mathematics.

Galileo had not need for potential attributed to objects. He only made use of the dimensions of an object which could be measured. He did not even abstract the potentialities in a voluntary way; he only discarded these as obsolete for his purposes.

His approach was successful in the perspective of manipulation of the environment. It resulted in a redefinition of the object from an entity filled with tension to an inert unit characterized by measurable dimensions. It should be clear had Galileo had no intention to a redefinition. It followed in a natural way from the success of his approach.

It brought with it a redefinition of the representation of the human. Instead of a dynamic being, a unity provided with a soul, the whole taken by the realm of God a partitioning started to take place. The human tended more and more to be understood as a body following laws of mechanics – Galileo's procedures - provided with a mind able to follow rational rules. This is not the place to discuss this in depth but of importance is that Aristotle's view on the human is one interpretation, while Galileo opened the way into another. The point here is not about the correct interpretation but on the fact that both are depictions, ways of understanding based on different sets of premises.

Galileo's intervention had yet another consequence.

Discarding all dynamic characteristics did not make these disappear in thin air. The increase in size of a plant over time could be measured but the act – vital in nature – of growing escaped this type of approach. The tendency to act, emotions undergone and the quality of colours seen, all these features did not vaporize; they remained experienced but somewhat orphaned. In time they tacitly became part of the realm of consciousness, of the mind. Only in 1866 they got properly labelled "qualia or qualia" by Charles Sanders Peirce, a term picked up in 1929 by Clarence Lewis. In 1974 it received a maximum of attention when Nagel pondered the question "what is it like to be a bat?"

The introduction of the invariant of which the essence would become questioned, and the changed approach of an object became the watermark of Western thinking until this day. It is so engrained that it is taken to be natural. If there would be something that might be called the blueprint, this would be it.

Further now with more pieces of the puzzle constituting the canvas.

### **An understanding of man**

The actual appreciation of the human in the Western culture from an ideal point of view is seen as an autonomous and unique identity standing apart from all what surrounds him. His personal life is considered of supreme value, the integrity of it legally well regulated. As an organism he seems to dispose of capacities never observed elsewhere. From his own perspective it appears that he is body with at the same time a dimension of experience escaping or transcending that material condition. The workings of the brain are presumed to be responsible for that particular if not mysterious condition.

The idea is to depict a few threads contributing to the constitution of that particular narrative.

### *The brain as causal centre*

One of the pieces is the contemporary prevailing belief concerning the workings of the brain if not as the centre of life in its entirety, at least as the initiating instance. Nothing seems to be more important than the activity of the neural tissue. For that conviction are at least three historical changes responsible.

#### 1. The contribution of Willis: brain-centrism

For Aristotle the heart is involved in emotion and thinking. This belief was still defended by Henry Moore in 1652. Even today when someone is getting emotionally moved he intuitively speaks from the heart and when engaging full heartedly (sic) into some event it is also said that he is taking it to heart. All things considered when emotional turbulences are in play, even to this day the heart remains the first candidate to be mentioned. However it cannot be denied that the brain gained importance in spite of the fact that according to Aristotle it merely evacuated the heated fumes produced by the activity of the heart. On the contrary today all serious work such as thinking, deciding and being conscious is attributed to the workings of the brain. In this Thomas Willis a medical doctor from the 17th century played a significant role. His anatomical studies of brain and nerves got published as “*Cerebri anatome*” in 1664. The reference in this contribution is short, anecdotic even, however the effect of Willis’ work cannot be valued enough. He provided the fertile soil onto which the whole movement resulting in the actual glorification of the workings of the brain commonly coined ‘brain centrism’ could take place.

There is more than one point to be made. First of all it makes clear that there have been different versions to what got considered to be functionally central to the condition of being a life. Secondly, the way the brain is becoming appreciated exposes a particular meaningful orientation: the brain as causal centre fitting the already existing scenario of the quest for the essence of things, in that case of human life in the natural philosophical appreciation, or in more contemporary wordings: in a biological sense. It should be taken into account that in the 17<sup>th</sup> century the divine contribution in the understanding of the workings of nature lost considerable terrain however God remained prominently present behind the curtains.

#### 2. From Galileo to Hooke : the causal workings of the smallest constituents

In “*Il saggiaiore*” or “*The Assayer*” written in 1623 Galileo proposes that what can be perceived by the unaided eye is caused by the workings of particles so small they escape observation. He as is well known is also the man using lenses to bring forth a spyglass allowing stakeholders to perceive as early as possible the arrival of ships. But the view of a ship is no revelation; everyone knew what a ship looked like. The shocking discovery took place with man such as Anthony van Leeuwenhoek and Robert Hooke, turning the contraption upside down and observing life on the scale of the very small not seen ever before. This not only opened a dimension beyond imagination but it fitted the aim looking for the essence using the dynamic pattern of cause and effect. The use of the latter had become extremely clear through the experimental method executed by scholars like Galileo. This pattern became experimentally confirmed by the work of Ramon Y Cajal in 1887 observing discrete units in what until that then was considered an integrated network.

At this point the following scene comes to live: the shift to the neural workings as the centre of human activity while the brain as the physical instance takes the form of a network of myriads of discrete units.

It could be argued that this shift and changing appreciation is a sign for the progress in the direction of a more truthful depiction, i.e. approaching ever more to the way reality actually is out there. This however is a perfect translation of what Plato offered in prospect. Unfortunately the acceptance of that understanding veils the underlying dynamic. Galileo demonstrated a method consisting of different actions resulting into a product which could be replicated, i.e. of which the result could be predicted. Y Cajal in first instance made observations of brains removed from corpses, he used microscopes as perception supporting tools and he interfered with the neural tissue along the instructions of Golgi. In short this is a highly operational and technical approach. If that testifies of something at all then it is about a practice embedded in an operational context. The idea of getting closer to the truth-reality is pure metaphysics with the particularity that the historic origin can be traced back.

### 3. The computer metaphor

The brain considered to be the causal centre is actually a compound of fat, water, blood vessels, neurons with dendrites and glial cells. How could this bring forth ethereal products such as thoughts and qualitative sensations as the enchanting experience of a sunset in the tropics?

Fortunately different metaphors have been helpful. With the invention of the telephone the connection desk offered a useful model to start with. It got followed by the fact that a radio had to tune in to a certain frequency. It gave rise to the representation of the brain as more or less solid matter tuning into what was around and as such rendering sensations and thoughts. An even more perfect model became available with the by Turing introduced machine opening the era of computers and information processing. A striking particularity of that contraption was that it made use of very simple conditions which could be expressed using Boolean values of being true or false. However being values and thus escaping grasp could easily become mimicked by turning switches on or off, a practice one was familiar with from the electrical facilities in day to day life. This could in turn be mimicked by electric relays, switching radio tubes, further by transistors and finally by integrated circuits accumulating thousands and thousands of switches. This corresponded very well with the assumed workings of neural tissue. Both were complex in structure and dynamic, both were based on switching conditions (electric chemical workings of synapses) and the effects of all these escaped the pure material substance of the computer on the one hand, the white and grey matter making out the brain on the other. Switches, connections and at some branches provided with threshold conditions guiding the signal into a particular circuit could be the hard ware mirroring streams of information tipping over into decisions under certain conditions.

Since then the workings of the brain often got described in terms of programs and algorithms processing streams of information of some sort.

The previous summary may now be supplemented by an explanation of human life based on workings of the smallest constituents hidden deep in the organism. These can be understood as the workings of an information processing computer provided with a central processing unit making decisions and controlling behaviour.

## *Man as a dualist creature*

### *Understanding Descartes' aspiration*

Despite the fact that most academics refute a dualism based on Descartes' proposal, the model is still tacitly influential. This justifies some background information.

His approach did not appear out of the blue. The development in ancient Greece has already been mentioned. As a reminder, different explanations required a criterion enabling a decision on which argument was paramount. The invariable got introduced provoking in turn the question into the nature of the said instance. It became an issue provoking a plethora of possible answers. Long story short the world as set of all that was out there became the object or the problem to be investigated. That is the first step. Overtime natural philosophers presented different solutions. Some fell back on what the senses brought forth, others stressed the importance of rationality. At the same time there was a tension with the way revelation explained the world and certainly with the way the church forced its version upon the thinking man. Taking a giant step, it all resulted in a slumbering turmoil raising questions about the quality of human produced knowledge. To make things worse, the 16th century was also a period of endless military conflicts reinforcing a feeling of doubt and uncertainty. All this provided a background for a shift from the object out there as problematic given – what was the nature of it - in the direction of thinking subject.

The question arose quite naturally whether human knowledge was reliable at all and in line with that problem what procedure should be followed in order to bring forth certain knowledge. This is the challenge Descartes found himself confronted with.

Another fact to be taken into account is that he was a keen mathematician. He participated in the new "scientific" way of constituting knowledge. From a very different corner but also of influence is Luther's suggestion that every man, not only the clergy, was provided with ratio allowing him to understand God's word. By this ratio became in a sense a secular instrument in the effort to raise reliable knowledge and importantly within reach of all. It should neither be forgotten that Descartes was a devout catholic maintaining relation with Marin Mersenne. The latter worried that the Renaissance scientific approach would explain everything leaving God aside thus jeopardising religion. Descartes shared this concern. He wrote Mersenne that he learned about Galileo's condemnation and considered seriously to burn all his writings because what he proposed depended strongly on Galileo. All these are elements sketching the sphere of the time.

### *The animal dimension*

In his model of the human, the body - famously coined as *res extensa*, was inert without powers of whatever kind. The dynamics could be imagined like the workings of a clock, one part pushing the other. Remember the influence of Galileo with his practical experiments in which cause and effect became registered in a quantitative way. It facilitated the suggestion of animals as some kind of automaton; the workings could be explained by principles of mechanics and hydraulics. This should however not be taken all too narrow. In line with Aristotle's view suggesting that experience was a function of the animal soul, mental powers of man in so far he functioned as an animal should also be explained following the logic of mechanics. It is telling that Descartes was intrigued by mechanical animals and human figurines

built by artisans. Today many are stunned by effects brought forth by computers. Something similar took place in Descartes' lifetime in relation to automatons. It is what underpinned the idea that Descartes thought of animals as pure mechanical automatons.

### *Soul, mind and ratio*

Concerning the soul or the mind his approach is not so clear cut as often presented. Underlying his ideas raged a struggle to rescue the Christian characteristics of the soul; as said he was a devout Christian.

In his view the soul harboured the power of thought or reason (ratio) separating the human from animal behaviour in experience and in the faculty of language. Animals lacked the sense of awareness of their own awareness. They lacked reflection which precisely allows the human to respond to novel situations contrary to the animal which only can fall back on mechanic reflexes. It is remarkable that he observed that animals cannot think with linguistically formed propositions precisely because they lack language. The ability to accomplish that is what Descartes considered to be the backbone of knowledge, the characterizing feature of reason. It emerged from a language of the mind – the source, by this situating language firmly in the mind which is of relevance for this outline. As a casual note, reference is made to the insights as formulated by Chomsky and Fodor.

To retain is that mind here equals ratio and as mentioned linguistic propositions are at the heart of it all.

Leahy in Erneling<sup>232</sup> observes that Descartes project was deeply influenced by the effort of saving his foundational philosophy from Galileo's fate. This is another way of saying that Descartes bended his views in order to save the model he had in mind, at the same time avoiding a conflict with the still almighty Catholic church. From this effort raised a depiction of the soul, the mind or the ratio completely different from the body, almost absolutely divorced from it were it not of the minuscule connection via the pineal gland. As he explained in the Meditations, Descartes considered himself nothing but a thinking thing or mind, a thing that doubts, understands, affirms, denies, is willing, is unwilling, and also imagines and has sensory perceptions. All this suggests a not-material substance seems, a *res cogitans* – a thing that thinks. It is a substance without matter not occupying space and so not extended and, completely separate from the body.

The importance of the following justifies quoting the paragraph:

"Descartes was not the first to prove his own existence from mental activity. St. Augustine had said, 'If I am deceived, I exist' and from Parmenides is known 'For it is the same thing to think and to be'. What was new and of profound implications was Descartes' radical reflexivity, his focus on the self and his invention of consciousness as *a thing that could be considered*, in short that could be studied." Augustine had turned inward and found God. As Leahy observes Descartes turned inward and found only himself. (in Erneling, 2005:48).

With and through this gesture the self became an object of attention.

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<sup>232</sup> Leahy is professor Emeritus psychology and philosophy at Virginia Commonwealth University, USA. He has a chapter "Mind as scientific object: a historical-philosophical exploration" in Erneling, C.E., Johnson, D.M. (eds) 2005. The mind as scientific object: between brain and culture. Oxford University Press.

Leahy specifies with the following example. Asking you to look at the green colour of a leaf in the Aristotelian approach one would indeed focus at the colour of the leaf in front of him. In Descartes' approach one focuses on the experience of green in consciousness – paraphrasing Nagel “what is it like to experience green?” (in Erneling 2005:49).

Of course contemplation of the self occurred before but mostly in a religious context, man considering his existence in the light of God. But here the focus turns in the direction of the psychological self laying the foundations of the study of the mind as part of man. God remains undeniable present in the background, but man becomes ever more understood in a secular psychological sense. Locke, a contemporary of Descartes, would even go as far as discarding the need of a divine instance altogether.

Nowadays the idea of the occurrence of an inner self comes as natural. But one should realize that this is a novelty deserving more than only taking note of it. It has to be realized that from that period on considering seriously the inner self as an instance *entered* the experience. The inner self got introduced as 1) something which occurred and 2) could be considered. Not much later the practice of keeping a diary appeared. People kept track of inner feelings and appreciations. Thinking about oneself ascended to a new level – there was some thing there inside, a personality, a mind-like instance to be taken serious, to be taken as something real.

This dynamic divided the world into an objective mechanical dimension to be known scientifically and a subjective one known by looking inwardly, by consciousness.<sup>233</sup> At this point appears what Dennett would coin the Cartesian theatre. The inner self looks at a screen onto which the data gathered by the sense organs are projected. From then on the naive direct contact with the outside world gradually got replaced by a state of affairs in which sensations are getting projected in the mind or the consciousness, projections which then in an act of reflection could be examined. Medieval believers in observing the world participated in the idea of God so were externally oriented. Descartes turned the focus inward looking.

### *Perception, from out to in to in to out*

For Aristotle something existed as the junction of matter and form. In the act of perception the sense organ only caught the form. So what is getting perceived is actually a part or dimension of the external world. This implies a direct correlation between experience and universe. Near the end of the medieval times and with the beginning of the Renaissance period the practice of mathematics became ever more influential. The truth became increasingly generated by calculation rather than by perception. As Galileo

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<sup>233</sup> It might be useful to remind the historic shifting in meaning of this concept. At first it was understood as *conscientia* that is “what we as community know”. That group became restricted to a selection of insiders – the *cognoscenti* (think of the contents of a board meeting not made public to the common members). A step further was knowledge kept in a voluntary way secret to oneself (*conscious sibi*). In the Middle Ages the term acquired a twofold meaning: knowledge that embarrassed one who has that knowledge – conscience enters the stage and knowledge which is private to oneself, the most intimate of thoughts of which the public can not have knowledge. The voluntariness became replaced by a condition of inability. This evolution, in particular from the Middle Ages on follows the line explained in the text. For an interesting elaboration of this subject: Nicholas Humphrey (1993), *A history of the mind*. Vintage.



observed the senses are prone to deception while reason with mathematics at its core opened the most reliable path to true knowledge. The scholastic scholar oriented the focus to the outside world presenting him what was really out there. The successors turned inside to working on calculations in order to generate a true description of reality. As Galileo observed “the book of nature is written in mathematical language”.

Here too there is a reorientation from the outside to the inside. All these elements are of course only dimensions of a general reorientation resulting into the installation of an inner space. It is a telling act to mention that Descartes’ insight demonstrates the pinnacle of this movement.

### *Reorganisation of the psychological scene*

The idea or the concept of an inner space available for inspection in short introspection, took firmly form. It became the natural way of thinking. The experience got reified, provided with an already existing label “consciousness” and as such acquiring the status of a genuine object of investigation.<sup>234</sup>

Recall the redefinition of the object through the approach of Galileo. It lost its Aristotelian dynamic character and became a thing prone for explicit measurement and systematic manipulation, in short a type of instrumental consideration. Something similar took place here: the naive direct contact with the world got lost and replaced by a type of consideration which is characteristic for a type of science as sketched out by Galileo. Consciousness, the inner theatre and what happens in that theatre is becoming prone for instrumental consideration. Experience became depicted in an act of reflected, introspective study bringing forth an object of experimental control.

It should be noted that focussing on individuals, Galileo and Descartes in this case, as the geniuses par excellence is somewhat misleading. It facilitates composing the narrative. But they should rather be considered the visible exponents of a changing Zeitgeist.

As an annotation in the margin recall the introduction of nature as the invariable criterion against which subjective meanings could be evaluated. Diverse subjective opinions provoked the necessity for an instance which escaped subjectivity, an instance independent of human volatility a condition known as objective. On closer inspection it could be said that subjectivity brought forth objectivity. They are not opponents but one is actually the fruit of the other.

Leahy comments “Galileo and Descartes made it imperative to study us—to practice psychology—so that the subjective contributions to experience might be subtracted, leaving only objective truth”. (in Enerling, 2005:50) This is an illustration of history repeating itself. The dynamic is escaping subjectivity by this

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<sup>234</sup> At the same time, but this transcends the scope of this discussion, an impossible struggle is getting fired up. What has been reduced to an internal subjective case in the first place, should no become withdrawn from that subjectivity seeking to grant it a status of objectivity. As Leahy comments “Galileo and Descartes made it imperative to study us—to practice psychology—so that the subjective contributions to experience might be subtracted, leaving only objective truth”. (in Enerling, 2005:50) Here too history repeats itself. Remind that the introduction of the invariable (*hoti esti*) was brought forth by the endeavour to escape the undecidability of different arguments put forward.

realizing objective knowledge as the ultimate goal, an endeavour reflecting Plato's suggestion of an ultimate reality.

### *Man an autonomous individual*

The shift in the appreciation of the self experienced as an entity however provided with a soul into the direction of a dual configuration of a psychological nature, has been subject of discussion in the previous paragraphs. But there were also changes taking place from out very different corners such as politics, military and profession. The impact of these changes will briefly get explained below.

### *From Fremd to Selbstzwang*

Changes in the domains of the military, urban, economic and demographic nature have been published by the sociologist Norbert Elias in "The civilizing process" (1939).

According to this author two major lines of force changed the pattern of the personality structure.

One had to do with the reorganization of gangs of mercenaries reputed for brutality into trained regular armies ascertaining order and keeping peace. Their police like interventions suppressed explosions of affect in the public arena. In order to avoid punishment by the military one could better learn to control all too wild impulses. This practice became a psychic trait and as such a consolidated part of the personality structure. With some exaggeration, brute confrontation made room for a being well mannered.

The increase of urbanization into ever larger centres of population was the other determining force. On the one hand people had to accommodate in living close together and on the other a division of labour into specialized professions took place. This also required a considerable effort in self-restraining at the same time raising the effort to attune with the particularities of others.

These forces complemented one another. There is the external pressure to behave oneself and there is the need to self-restraint in order to attune to the behaviour of others. Elias coined this shift the transition from "Fremdzwang zu Selbstzwang" (from outer to self control). Courtly rules – rules esteemed proper for a court, became the stepping stone into what would become considered common politeness. Direct action expressing personal interest got gradually replaced by behaviour aimed not to disturb the feelings of the other.

The importance of this is the shift from an interpersonal tension in the public arena to an interiorized but controlled tension within the individual. Psychic turbulences became private and hidden (inside). This process of interiorization consolidated into a permanent psychic condition. The world experienced shifted partly from an outside arena to inside theatre.

### *From social interconnectedness to individual integrity*

There is yet another transition in accordance with what has been mentioned. Middle Age society is characterized by a public oriented social control. People lived in large family-groups governed by interconnectedness and interdependency. This type of structure shifted overtime in the direction of an increasing urbanization as mentioned and of the upcoming of the citizen. The French Revolution as catalyst broke down the old structures and promoted the individual in a new guise characterized by a

type of integrity not to be questioned, of private property and private type of life not to be touched. It is obvious that this supports and strengthens the idea of an inner private life.

### *From res communes to private property*

Before agriculture, the idea of private owned land was even not thought of. This changed with the labour invested in cultivating the land. It raised quite evidently a feeling of ownership. In the Roman period lakes, ponds, the shores of it, most of the woods and wildlife were considered to be common (*res communes*). This got even in part confirmed by the Magna Carta in the 13<sup>th</sup> century. In the 17<sup>th</sup> century Locke considered a balance between the commons and private property. His concern got inspired by a tendency which began in the 15<sup>th</sup> century to privatize and thus to enclose what was once land which could be used freely by the community. The importance lies not only in the fact that it happened but that it was part of, at least developed in parallel with the transition observed by Elias.

### *Labour becoming a commodity*

Part of the previous change there is yet another important for the way man in a Western cultural setting holds a picture about the way he is and functions in the world.

Whatever the deplorable condition the serf in the Middle Ages found himself in, in a way he was one with his life world. Not only had the Cartesian split not entered common thinking yet but of importance for the actual context whatever the poor conditions of life, as a property of the estate he was taken care of by the master. So he felt part or even bound to estate and environment. With the industrial revolution two related changes took place. In first instance labour changed from an aspect of fate into a tradable, moreover a marketable commodity. This got in a self evident way accompanied by the loss of being taken care of, the second change. The status of serf changed into that of a working man. This might be an all too simple representation as the life of a serf was in most cases not necessarily a pleasant one neither. But the attention is drawn to the fact that labour once a dimension of the integrity of the human became an isolated instance in its own right moreover becoming an object of trade. There is a particular effect though; the well being of the labourer is not exactly the first concern of the entrepreneur interested in the labour itself.

All this seems to be part of one overall change. Galileo focussing on what was manipulable and measurable in an experiment shove aside the Aristotelian potential. This divorced the one from the other in the same way Descartes quite radically would distinguish the mind from the body. In the same sense labour as a marketable commodity became divorced from the man bringing it forth.

It all contributed to a depiction of man as a conglomerate of clearly distinguishable functional sectors: the body with its biological workings, the intellectual capacities as a realm in its own right, labour and competences as elements embedded in a commercial relation. Man became naturalized. He evaluated in the direction of a condition of being prone for technical and scientific treatment, the different sectors subject to a ever more advancing scientific *Zeitgeist*.

### *The question into the meaning of life*

It would not require a lot of effort to open a library on this subject. The aim in this case is only to draw the attention that this in the form it takes today is a quite recent phenomenon.

In the Middle Ages for instance, this was not considered a problem at all. Humans were privileged elements in God's Grand Design and destined to take up a task. Even the Reformation did not contest this. But gradually religion became under pressure by advancing scientific approach which not a coincidence went hand in hand with technical innovations which would promote the movement eventually labelled the industrial revolution. The explanatory force from out a secular point of view increased. It is not a coincidence that Nietzsche exclaimed "God is dead. God remains dead. And we have killed him..."<sup>235</sup>. Developments within the domain of philosophy of nature from which science as understood today eventually would sprout, did not help neither. The ability of bringing forth knowledge and in the slipstream the quality of knowledge itself, became questioned. Descartes' contribution was actually an effort to answer this problem. But within the domain of investigation and experimentation, different approaches seemed to provide different explanations a fact feeding uncertainty further.

In short, the previously unquestionable certainty of the religious lost terrain which in turn got replaced by a more secular approach lacking the meaning of life as a subject. This problem became the province of philosophy.

These few lines tried to shed light on the fact that the question into the meaning of life in its contemporary form is quite new, the product of a particular historical process.

### *The question of the meaning of life – part 2*

There is yet another historical setting playing a non-negligible role. Again we turn back to the Middle Ages. In general terms there was no such thing as labour in the sense of a commodity. Being alive meant bringing forth some form of labour.<sup>236</sup> Both were in a sense synonymous. With the introduction of manufactures and later with industrial workshops labour became a commodity paid for a determined period of time. This however divided the day into quite distinct parts: the time dedicated to remunerated labour and the part beyond that (home, family, rest...). This changed the appreciation of the periods concerned. In the Middle Ages every moment of the day was occupied with some kind of labour, it was full of meaning. If that condition was whether or not pleasant is another subject of discussion. But there was no idleness. Life was fate, fate was meaning. With the distinction mentioned the paid part was appreciated as useful and by this meaningful. It served a goal. The period beyond that did not. This distinction became extremely important in the perspective of experiencing meaning in life. It became so increasingly with the introduction of some form of social support in extremis the system of social security. Take the actual condition of being retired. With the professional period in the past, the time has come to surrender to leisure. There is no duty anymore to be fulfilled in order to generate income. The goal evaporated and lying ahead is leisure, enjoyable idleness... or pure idleness in the end turning into a

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<sup>235</sup> In "The joyful pursuit of knowledge and understanding" (1882).

<sup>236</sup> This no doubt is a crude simplification. The idea here is to point out the two extremes as oppositions to clarify the effect on the coming into being of the question into the meaning of life.

feeling of no longer to be of any use, the famous black hole affecting quite a few pensioners. And with this the question into the meaning in life appears in the experience.

This illustrates that historical conditions again leave their mark on the way the world is getting understood.

### **Three important concepts**

To round up it might be useful to draw attention to two concepts which are commonly taken for being natural and consequently in no event questioned.

#### ***Concept***

The first is about the concept of the concept itself. There is extensive literature on this topic as it is considered a core building block of thinking. The aim here is only to point a remarkable feature relevant for the discussion at hand.

In order to get some grip on the subject it can be approached from different angles. One is an epistemological consideration or an approach within the framework of knowledge. According to the Scholastics, a school of philosophy in Europe in the period from about 1100 to 1700, “reality” could be approached in different ways. One group of scholars was convinced that only particular items existed. There was a tree and another and yet another etc. The common features justified the use of a name distinguishing these from other groups characterized by their respective common features. According to that interpretation the classification of features into a category mirrored the interest of the perceivers rather than it would indicate something existing as such in the world. This group is known as the nominalists: names are only names provided by the perceivers. As may be expected there is another group holding that the name is not merely a label but refers to something really existing hence coined realism. Remember Plato suggesting the realm of ideas holding a condition of ultimate truth. From that perspective there is something like an ideal “tree”, the particular trees perceived being no more than reflections.

The other approach follows a rather psychological line of thinking. It is situated in what became known as cognitivism in particular from the corner of linguistics, in contrast to computational oriented strand. The basic idea is that perception is underpinned by principles formulated in Gestalt-psychology such as part-whole configurations constituting in basic level configurations, otherwise said the organization of functional parts into a meaningful low level pattern. Thinking about a car – not my particular car but in general - one does not in first instance think about a specific example such as an ambulance or a racing car but on an overall rather naive and vague depiction of something box-like able to receive a load and provided with wheels allowing it to move.

In the previous lines nominalism, realism and basic level categories got mentioned.

The question arises in what mode do people in every day life situations think about the world? It will be obvious that they do not ponder if the perceived is a particular (nominalism) or the reflection of an idea

(realism). They neither consider what they see as something purely belonging to a category i.e. something which might be called such and such. They rather think in terms of basic level categories: this is a human, this is an animal, this is a car, this a pen etc. But they do so in a particular way not purely as a basic level type but as about something really existing. When for instance speaking about “man”, the human, they do not have a pure technical type in mind, they talk about the human as if there really somewhere is something existing in that sense. The “human” is not a sketch, it is something really existing all be it in a vague realm, that does not matter. It matters that what is perceived it is taken as some instance being real.<sup>237</sup>

This characterizes one of the important building blocks in understanding<sup>238</sup> the world, in constituting the canvas mentioned in the introduction.

As a remark in the margin, it will be clear that this type of understanding, the feel of it, has affinity with Plato’s proposal about a realm in which the real has its proper place. Of course one does in everyday life not consider a separate realm of the real somewhere in the heavenly spheres, but they self evidently handle terms like human, tree, animal, mind, goodness etc. in exactly the same way.

### *Capacities*

Faculties, capabilities, potentialities, abilities are all synonyms. It is the idea that people dispose of mental faculties to such a degree that these are assumed to be innate and differently distributed amongst the population. Some so is said demonstrate a faculty for music or for math. It does remind of phrenology a theory suggested by Franz Gall at the turn of the 18<sup>th</sup> into the 19<sup>th</sup> century. Practitioners in this field were believed to be able to discern different faculties and their respective development by palpation of the skull. That this discipline got into disrepute will not surprise. But to this day it is commonly accepted that the human is provided with typical capacities such as perception, memory, language, intuition and free will. Moreover some prove to be better in certain fields than others consequently it is not al that weird that they are attributed special developed capacities to begin with.

The discussion on the hereditary effects following the principles of natural and or Baldwinian selection and the controversy nature – nurture left aside, what is actually going on?

Innateness might be a possible factor working in the background hence escaping observation. But there is also the realm of the observable in which different steps can be taken into consideration. The first one is culturally transferred common belief that capacities might be innate. As mentioned this is transferred knowledge taken for granted and as such left aside here. Further people do observe particular clusters of behaviour such as the complex manipulations recognized as playing the piano. This is then taken a step further and interpreted as a function. In that sense “piano playing” is becoming a concept as explained in the previous section and it acquires a status going beyond the operations executed. The following step is that this becomes attributed to the realm of the mental provoking brain imaging research and suggesting

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<sup>237</sup> This condition became called “nunc stans” by Hobbes, “la foi perceptive” by Merleau-Ponty, “Urglaube” bu Husserl, also by the latter sometimes coined “Urdoxa” and by Gehlen “das Paradis von reinen Mittelbarkeit”.

<sup>238</sup> I felt tempted to add “day to day” to understanding but the point actually is that this type permeates academic thinking quite intrusively too.

correlation with neural workings. Strictly spoken, only a correlation will be noted. In common parlance however the chance that it becomes understood as causation is not far off.

Cutting corners, it starts with the observation of manipulations getting interpreted as a function registered as a correlation with activities in the brain. Then the correlation is easily (mis)taken as causal and this – remember the quest for the essence – is attributed to some instance in the brain. The concept of working memory provides another example. Research executed so far reports very cautiously in terms of “it appears... it is not localized to a single brain region... an *emergent* property” (Buchsbaum, 2016)<sup>239</sup>. “Emergent” has been put in italic because this is again an effect assumed to be related to the workings of some neural tissue and thus a correlation. D’Esposito (2007)<sup>240</sup> even goes that far to express that working memory can be viewed as neither a unitary nor a dedicated system.

The recent theory on working memory – firmly accepted in established science (recall the introductory lines of this contribution) – falls back on the model suggested by Baddeley. It is a quote read in a publication by the late Hawking in cooperation with Wlodimov to mind expressing “...there is not a picture nor a theory independent concept of reality (...) we will adopt a model dependent realism (...) a model and a set of rules to connect the elements of the model to observations”<sup>241</sup>. That is exactly what has been mentioned earlier: observations allowing a model.

Referring to Hawking is not without pretence. He is considered the cream of science, mathematical based science in particular.

A similar movement can be recognized in relation of the assumed faculty of language. As conceived by Descartes it was a faculty given by God so that man would be capable of expressing - yet another faculty that of - rational thought. Again what is getting observed? People making gestures with the hands and mouth; with the latter bringing forth sounds and as such provoking understanding and reaction in the others, and not less important also to themselves. Here the attribution of a function was already provided by history: it was a gift of god and consequently innate. This whole idea but in a more secular guise got eventually adopted by Chomsky. In confrontation with behaviourism he suggested the model of an innate capacity based on what he called the poverty of the stimulus. Here again observation of what is operationally going on provides the stepping stone, as said the function got historically provided. The drama however is that the transformational generative engine bringing forth grammar could never be found neither the neural correlates. Broca’s and Wernicke’s function are not doing exactly that. I once read the report of a French linguist spending most of his life career in vain looking for something which was not there (never was actually). And as Tim Ingold the anthropologist ponders, could it not be possible that the introduction of such an instance is the fruit of an inward directed focus looking for a built-in capacity for language - at least a language acquisition device (...) The supposition that there should be something as ‘language’, he adds, is not a natural fact. It fits in a framework of Western opinions about the nature of man, the bodily functions discernable from the mental faculties, like an envelope for an inner event.<sup>242</sup>

Another example can be found in Freud on the existence of unconsciousness. He observes that “(...) both in healthy and in sick persons mental acts are often in process which can be explained only by

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<sup>239</sup> Bradley R. Buchsbaum, in *Neurobiology of Language*, 69.4 The Emergence of the Concept of Working Memory

<sup>240</sup> D’Esposito, M. 2007. From cognitive to neural models of working memory. *Phil. Trans. R. Soc.* 362, 761-772.

<sup>241</sup> In *The Grand Design*, 2010.

<sup>242</sup> Ingold, T. 2000. *The perception of the environment...*

presupposing other acts, of which consciousness yields no evidence".<sup>243</sup> Here too an assumption becoming a concept in the end acquiring the character of an instance really existing somewhere takes place.

This way the very idea of a faculty together with the concept of *a concept* provides building blocks or instruments in the construction an understanding of the world as it seems to show itself.

### *Naturalism, naïve realism*

The third concept is that of naturalism. It has a similar function of the previous concepts in that it structures the way the environment, the world at large is understood. It at the same time differs because concept and capacity imposes a cognitive structure while naturalism has more of a belief. It is an assumption, stronger even the not questioned conviction that the world as understood corresponds to the world as it is in a natural way. That is not as a new type of belief. The Babylonians, the Sumerians, the Greeks accepted their understanding as a truthful correspondence with what was really out there, as did the peoples in the Middle Ages, the citizens brought forth by the French Revolution, as do contemporary people when thinking about neo-liberalism. They understand and value the way the society is getting organized as completely natural even to the degree that the belief reigns that this type of mentality is a-temporal, a-historical and universal i.e. people whatever the location always thought about life and community in that way. It bears the character of a natural law collapsing with naïve realism. It is a kind of psychological attitude and for the sake of clarity it should be distinguished from naturalism as understood from a more philosophical point of view. In that case the idea is that what exists can be explained in terms of indeed natural laws in strict sense i.e. reduced to the workings on the level of matter.<sup>244</sup>

The relevance is obvious. The depiction of the world as understood is characterized by the conviction that this is actually the natural way things are. The particularity of it is that this is indeed a conviction, one of possible assumptions or models.

## **Concluding part I**

We return to the proposal suggested in the introduction.

Opening the eyes, launching perception we find a global meaningful depiction. On closer examination this compound scene can be pulled apart in different themes. Each has a particular content asking attention. In third instance each theme shown has a historical provenance which can be retrieved.

The overall depiction consists of three groups. The first deals with the nature and reach of knowledge. It sketches the introduction of the invariable in time provoking the question into the nature or the essence of it. This provoked a plethora of attempts to provide an answer of which Plato's version was no doubt

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<sup>243</sup> Freud, S.. *The standard edition of the complete psychological works of Sigmund Freud*. (J. Strachey, Ed.). Macmillan (p. 2991)

<sup>244</sup> As proposed by Willard van Orman Quine; defended above inclines to the approach taken by Nietzsche.



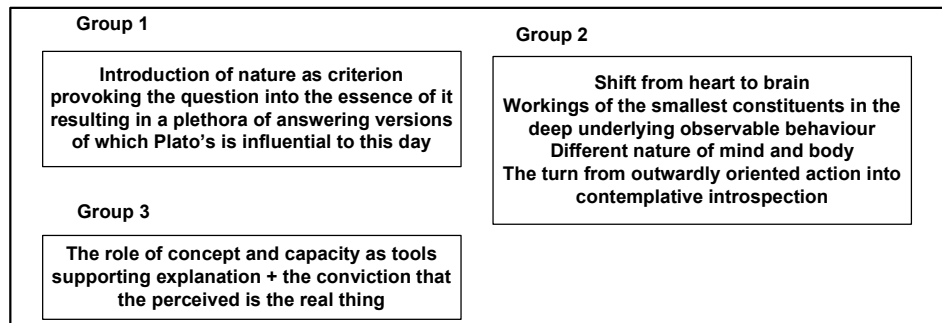
about it, most influential even to this day. It prepared the ground allowing Galileo to develop a method producing replicable effects.

The second group germinated on the fertile soil of the first. The attempts at answering the question into the nature of the essence were divers and had also to compete with the dominant influence of the Roman Catholic Church. All this resulted in doubt about the human ability of bringing forth knowledge. This divided the focus. It remained partly on the problem about the nature of the essence of that what exists. But in questioning the quality of knowledge a different target took foreground: the abilities of man in generating knowledge, exposing a psychological structure as a side effect. That structure suffered also pressure from social, economic and politic influences. These changed man from a mainly extravert acting out instance into a self controlled and inwardly oriented perspective.

The third group in the global scene is about concepts contributing to an understanding of the world: the concept of *concept* itself and the abilities or capacities considered to be part of the natural equipment of man. It is enveloped by the conviction that the perceived mirrors the real world.

This in a glance is the script determining the boundaries of the actual thinking which characterizes Western culture. In plain language it is the perspective normally taken when interpreting and appreciating what is perceived. Without much nuance it also provides the limits of the blueprint in which the dominant scientific thinking takes place even providing the overall framework in which paradigms change and shift.

***Principles and meaningful contents organizing  
an understanding of what is perceived***



The aim was to sketch out in broad strokes what thinking within the boundaries of the box – *thinking in box* - actually meant. The moment has come to explore what *thinking out of the box* could be consisting of.

## **Part II, prerequisites allowing thinking out of the box**

In the first part unveiling historical defined interpretations of how the world got understood was central. The aim in the now following part is to gauge in what way an organism understands the Umwelt taking into account basic circumstances such as biological situation, primary psychological workings and

environmental influences. It is an attempt to offer a construction of the perspective determined by basic building blocs and in line with it a narrative *out of the box*.

The question may rightfully be raised if in this case the factors which will be sketched out are free of historical biases? This requires for some comment.

In first instance the references made in the previous part were not meant as a condemning rejection of what is believed but as an unveiling of its historical grounds in order to make clear why is thought what is thought, to make clear that some interpretations accepted as being natural and self evident are not.

Secondly the plausibility of certain arguments is in play. In the present day not many will be convinced by Plato's suggestion of a realm of ideas. On the other hand the theory of evolution by natural selection as formulated in the 19<sup>th</sup> century is by its persuasive value accepted by many. Another example is Kant's claim that the "das ding an sich" (the thing as it is in itself) supporting the appearance produced by perception cannot be directly known. Until this moment I have not read one argument which could disprove his observation. How could one get around the fact that the characteristics of the body determine in a closing and definite manner what the organism – any organism - is able to do and to perceive? That argument too is so plausible that it comes as irrefutable.<sup>245</sup>

Concluding what will be offered differs from the previous part in that a meaning given perspective will be construed making use of justifiable basic building blocks.

This enterprise will take two steps.

The first tries to piece together the basic condition the human as a species amongst species shares with at least these most akin. The second step offers a suggestion about the development into the human condition.

Of course this approach is neither neutral nor objective. It is impossible to think of it free of any meaningful context. The angles of view have been mentioned in the introductory lines of this second part: the characteristics of the biological situation, of primary psychological workings and last but not least environmental influences.

## **The basic condition**

### ***The baseline: taking Darwin serious***

However simple it might appear Darwin's tree sketch of descent makes it convincingly clear. The human is one species amongst all others. These days that fact is seldom contested. Even pope Paul II allowed in 1996 further research along that line as long as was accepted that it could not answer all the questions. The attention focuses on aspects of anatomy, physiology and genetics mainly. Cognitive abilities also get examined from an observational point of view or in experimental settings probing the abilities of animals. The immanent risk of anthropomorphizing, at least the tendency of comparing the results against the human realisations is often not far away.

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<sup>245</sup> E. Vermeersch, professor emeritus at the University of Ghent and known for his preference of the scientific approach, admits that it is maybe difficult to refute Berkeley's idea about the impossibility to know the world as it is in itself but that it might be more convenient to accept the existence of it. (Vermeersch & Braeckman, 2013. De rivier van Herakleitos. Houtekiet. P.140)

But the step to the obvious fact that if the human species along the line of descent shared a common ancestor consequently also a common perceptive cognitive appreciation – in short understanding of the environment is seldom made.<sup>246</sup>

However it goes without saying that in order to get grip on the actual competences characterizing the human, from a methodological point of view it might be a good idea to focus on the conditions characterizing the initial stage of development, the stage the hominina shared with species most akin.

But “taking Darwin serious” should be specified with even more stress.

The statement that “man is a species amongst species” is getting received as a declaration one learns in the same way some event is made known by a newspaper. It is getting received as something beyond doubt but it does not really sink into the reader. Take the statement that “the height of the Himalayas has decreased considerably”. It is an amazing fact in its own right but no one will really be impressed by it. Reading that man is a species amongst species receives a similar appreciation while it should be really shocking. It should be accepted in the way Richard Leaky expresses “man is the fifth ape”, a statement to be taken literally.

Leaving all anthropomorphic vanity aside this is not only a justifiable assumption but it at the same time forces to focus on the following two questions.

If this might indeed be the case, how did the human develop out of the initial situation the capabilities he shows today?

The second question exposes a need not only to list these capacities but also to look into their interrelations. Which capacity, ability or skill is functioning on its own and which provides the necessary condition allowing others to develop?

At this point caution is recommended. Thinking within the constraints of the box one is easily seduced by the workings of the smallest constituents – as the neurological workings - hidden deep in the human. It risks to provoke what deep sea divers call - it sounds so much better in French – “*T'ivresse des grands profondeurs*” in plain English “raptures or drunkenness of the deep”. This comment does not want to turn down this approach as a mistake. But one should in first instance keep Lloyd Morgan’s cannon in mind saying that no animal activity should be interpreted in terms of higher processes *if* it can be fairly interpreted in terms of processes which stand lower in the scale of psychological evolution. Therefore in this part the focus will be on operations in the public arena, a setting in which each living creature thrives. This is actually the first line setting in which an understanding of what is going on takes its primary form, an understanding provoking responding behaviour. It is at the same time the most simple setting possibly showing operations taking place in the public field of perception alas often (mis)guided by the idea of deep rooted causes.

In summary: by taking Darwin serious one should be fully aware of the fact that man is an animal amongst animals with all that this implies and further that capacities should in first instance be understood in relation to operations executed in the public arena.

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<sup>246</sup> Robert Dielenberg is an exception by pointing out “(...) a common root of cognitive abilities”. A comparative psychology of human uniqueness: a cognitive behavioral review. Chapter in: R.G. Bednarik (ed.) 2013. Psychology of emotions, motivations and actions. The psychology of human behavior. Nova Science Publishers.

### *On meaning*

When meaning is discussed this always occurs in a particular sense that is, by making referring to something. It is like a quality possessed as in “What is the meaning of life?” or missing as in “this sentence has no meaning”.

Quite useful in this context the Scholastics distinguished “per accidens” from “per se”. It is useful because this contribution wants to stress the discarding of the need for a “per accidens” form. The life of an organism, any organism does on the lowest level not need the attribution of a meaning. Organism, life and meaning are in a way synonymous. How is this to be understood?

In the last paragraph of “The origin of species” Darwin mentions law like principles applicable to all living species. He refers to the endeavour to survive and to the drive to reproduce. Therewith each and every organism from the very beginning is characterized by a meaningful drive. A living organism, any living organism is not an inert and neutral instance to which a meaning has to be attributed. The organism is driven or primary motivated from the very first moment and that is collapsing with its meaning.

The aim here is to accomplish a sharpening of the awareness that on low level at the same time the core of existence life is driven and by this very fact meaningful “per se”. That is important not only in order to make this point clear but also because it explains quite a lot of basic behaviour.

### *Embodiment – the first of the 4 E's*

In day to day life and embedded in the contemporary Zeitgeist one considers himself as an isolated well demarcated autonomous unit manoeuvring freely in space. However aware of the fact that the environment is always present it feels like being completely free. Any environment could in principle easily be replaced by any other. The walker considers to be absolutely free from the ground. He is able to walk on any surface he prefers neglecting the fact that he cannot even be thought without a surface supporting him. In the same way birds are thought to fly freely through the air neglecting the fact that it is the resistance of the air carrying them.

But taking facts of ecology, biology and evolution into account it quickly becomes clear that the human, any organism for that matter, is a product of the material and dynamics in which he finds himself embedded. The human is not only made of the same basic physical elements, he continuously relates to the surroundings. He needs to breathe; he needs water to drink, food to eat, and a floor supporting him enabling to move around. This is the basic condition of intertwinement, of unavoidably being part and parcel of a larger whole.

Yet another fact deserves attention. Different species have different bodies. This is a stunningly trivial statement, thus trivial that it risks to be shoved aside without ado. However a different body implies a different way of perceiving and a different way of tackling the burdens presented by the environment. An earthworm perceives another world than a dog or a bird. In case of the human the upright posture and the abilities of the hands are of decisive importance. Prior to all cultural particularities it defines first line

the system or the logic construing the appearance of the environment, it defines the way the human has a world.

So there is a stringent relation between the particularities of the body of a species and of the world experienced. This is contrary to the mainstream beliefs that there is an objective world present irrespective the form any organism could have and knowledge of that world lies within reach of the human abilities.

The plausibility of the determining influence of embodiment is such that to me anyway it seems implausible to refute. McGinn coined the idea of a cognitive closure.<sup>247</sup> In a same line of thinking there should be a suggestion of embodied enclosure. But that would go further than McGinn's suggestion because for this author the world could objectively be known within certain boundaries. Embodied enclosure concerns not only the reach but also the content: what is known cannot be else than a product of the abilities of the organism.

That is what Kant observed when stating that the thing in itself cannot be known. We feel confronted with the phenomenon; the way the world appears to us. The chaotic input<sup>248</sup> structured by the schemes projected by the mind thus making the world intelligible. But also Kant is falling short by the fact that he focuses on the problems of knowledge while embodied closure does not end there. It encompasses the logic present in countering the burdens of the environment. Transcending the scope of this explanation, in another text I have gone so far as to argue that the whole of the act of knowing is actually grounded in the logic of mediated manipulation. But that transcends the scope of this contribution.

Summarizing: In the previous paragraph the primordial drive to act upon turbulences in the environment has been given. That is what motivates, what moves. In this paragraph the focus was on the form or the body that is getting moved and in particular on its abilities determining the way the environment is getting perceived and motor wise approached.

### *The Umwelt as a space of meaning*

Suppose while observing a bicycle the question arises into the most basic condition in order to allow transportation from A to B. The answer is obvious: a more or less flat surface.

Following the same line of thinking, given the drive providing dynamics and a particular body determining the way that takes form what are the structural features which can be deduced from that condition?

In first instance the expanse of the Umwelt is defined by the reach of the bodily sensitivities or the perceptual channels and, by the reach of the motor capabilities. In this case there is no question of an independent and seemingly borderless frame of reference allowing pinpointing a position by the use of coordinates. In that sense the volume projected by the organism is a function of its embodiment. Secondly the organism takes the position in the centre of this volume unlike that of an observer on the sideline of the scene of action characterizing modern man. Thirdly the scene bears an iconic character again unlike a narrative composed of declarative statements as experienced by modern man.

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<sup>247</sup> Problems in philosophy; 1993.

<sup>248</sup> The very idea of a chaotic input is yet another product of thinking. It is deduced from the fact that the organism brings forth an experience of perception. There must be something provoking this, but that conclusion is indeed a product of thought.

In summary, the meaning experienced is defined by the primary motivation in particular the condition of it at a certain moment and, the abilities made possible by the characteristics of the body. It could as well be said that the organism is at the centre of a life-world which is getting projected out of the abilities of its body instantiating the organism.

### *Gestalt*

The condition mentioned in the previous paragraph does not fit a description in terms of inert objects caught in a mechanistic pattern based on manipulation. A more adequate approach is offered by Gestalt-psychology. A disruption in the field of perception is evaluated by its relevance in relation to the abilities of the organism and within that frame by the conditions the primary motivation is in at that moment. Sheep do not eat earthworms. Therefore their presence is not relevant, not even as a menace. A lion with a full stomach is not interested in a gazelle even within reach. So what is of relevance takes foreground, if not it vanishes into the background. This bears more the character of a dynamic tension than static positions taking pinned on coordinates.

Modern humans observe the world as a set of objects. They are taking position in the field of vision. On the level discussed here the situation is very different as bird watchers and hunters are well aware of. Not moving is the message. It means that a change in the eye line triggers the awareness of a presence to be evaluated not as much the fact that it is present as part of a static scene. There are of course other factors playing a role smell in particular, but out of the wind and not moving, the chance is considerable that the animal will not be aware if the observing party.

These examples such as relevance in relation to abilities and of actual condition, the figure taking foreground or a shape disappearing into the background and the importance of movement illustrate the proper context to understand the scene at hand.

### *Phenomenal pragmatism*

In the first part it was explained that the causes for public observable behaviour got attributed to the workings of the smallest constituents hidden deep in the internal workings of the body. This is a justified assumption. Research made clear that for instance the level of hormonal secretion can provoke particular forms and-or degrees of behaviour. But the bias lies in the fact that this type of approach quite exclusively absorbs the general attention, by this repressing other no less important determinants as for instance phenomenism. This is commonly taken from a pure epistemological point of view as by John Stuart Mill and by Berkeley. For both the thing in itself cannot be known, man is only confronted with the appearance. The tension between the Kantian noumenon and phenomenon is obvious. In the actual context phenomenism stresses the fact that the way the world is understood *determines* the way the perceiving organism will act upon it. The impact of understanding on behaviour is primordial in this approach. The directive is that in order to understand behaviour one should in first instance try to grasp the way the organism understands what is going on. Examples are ubiquitous. Take a European tourist finding himself in a Chinese train station confronted with announcements presented by ideograms. The tourist will assume meaning but it escapes his understanding and as such does not provoke proper action.

Or take two people one once molested the other never abused. Fed by their respective experience they will raise a different understanding of a situation consequently provoking different behaviour. The hormonal level might indeed produce a strong influence but even under this condition the way an organism understands the situation he finds himself in will determine the action taken. This approach might be coined phenomenal pragmatism because what is executed in the public scene in principle observable by all is the most important determinant in the situation at hand. Once falls back on his beliefs not his hormones. It is qualified as being phenomenal because how a scene as phenomenon is understood will initiate behaviour considered appropriate.

This appreciation finds in a sense confirmation in the theory of evolution driven by the mechanism of natural selection. Whatever might be responsible for a change – a mutation on the level of genetics or the effect of a repeated activity, the form brought forth by all this has to prove to be efficacious for survival in real life situations. Here again what is decisive is not the value of a hormonal arousal but the operation made possible by a particular form proving to be valuable or not in a overt scene, that is in a public observable interaction with other factors playing a role in the Umwelt.

#### *The 4 E's*

*Embodiment* as the first “E” has been discussed earlier. The position taken by the organism *extended* by the field of perception and the reach of its motor capabilities has also been mentioned. The moment has come to refer to the remaining “E’s”.

It is common to think that cognitive activity takes place some where inside the head hidden by the vault of the skull. On closer inspection however the world surrounding the human, any organism provided with a nervous system for that matter, is crowded with stimuli triggering building blocks in the process of cognizing. Imagine a person lost in the countryside. He looks around hoping to spot something which might be meaningful, for instance a bell tower signifying that there is a village in the vicinity. Indeed one might have a concept of a bell tower in mind. But perceiving one in the distance holds more promise. It signifies that there is some form of urban organization, a bus station maybe. However all these qualifications overlap, embedded as the third “E” focuses a different angle. Take the case of a wanderer. In the Western culture it is *prima facie* understood as someone taking a hike, executing particular movements, a kind of locomotion, in any case the act of a person plain and simple. But taking a step back observing the situation at hand, a wanderer could not be thought of without some kind of surface allowing to execute the act of walking. Actually mentioning a wanderer is not only referring to a person but at the same time introducing elements pertaining to the context allowing to perform the said action. A step further (sic) even the configuration called a path could not even be appreciated as such without a wanderer walking by this giving particular form and structure to the supporting material. Kant already in the Critique of Pure Reason referred to “the light dove, in free flight cutting through the air the resistance of which it feels...”. We look at the bird as if it manoeuvres in empty space neglecting the fact that if there was no air offering resistance there would not be the act of flying at all. There is a delicate but absolute necessary relation between the surface of the wings and the density of the air.

Animals the human included are not cut off from the immediate surroundings, as if they were standing on their own without the necessity of any form of a surrounding dimension. Consider oxygen with other

words the air allowing to breath which is a necessary condition to be alive at all, is actually a waste product of the process of photosynthesis. What would we further be without water to drink?

The fourth “E” refers to *enaction*, a relation stressed in the work of Maturana and Varela. The intertwinement of organism and environment has already been mentioned more than once. Enaction focuses on the reciprocal influence. The environment challenges the abilities of the organism; the latter by his reaction changes the former. This active relation leaves traces on both sides. The wanderer acquires a deeper skilfulness, the path acquires an ever prominent form.

For the interested reader chapter 4 “The extended mind” in “How things shape the mind” by Malafouris (2013) can be highly recommended.

Summarizing: the human, any organism for that matter, is not some instance completely decoupled standing in isolation. The characteristics of the body open the environment as a meaningful scene and define the way it will counter the challenges presented by it. Clues taken by what is relevant trigger proper action by which cognition acquires an exterior dimension. It gets embedded in a distributed or extended over the environment. Stringent interactions leave marks on both sides.

### ***Relation regulation***

The idea is borrowed from a publication dating from 1967 and composed by Watzlawick, Bavelas and Jackson with as title “The pragmatics of human communication”. One of the axioms formulated holds that all behaviour is communicative. As expressed by the title the authors have human communication in mind. This is however double layered. The use of human language always expresses information declarative in nature. Without exceptions it expresses information *about* some thing or event. However important amongst humans, it is not the layer focused on here. Another axiom articulates the flipside: as all behaviour is communicative it is impossible not to communicate. Only the fact of being present in the vicinity of someone already holds a message for the other party even in the case it is the intention to avoid any form of information giving. Looking into another direction the person expresses “I do not want to inform you, I avoid getting in touch...”. The idea to catch is that human communication in *most* cases transfers declarative information, but in *all* cases and in first instance expresses a meaning on how the relation is experienced. It is what is getting experienced in the proverbial first thirty seconds of a job interview, broader the so called first impression of any contact. It takes place amongst people but as well in the relation between human and animal.

This is not something that can be considered to be executed. It is so primordial that it is part of being alive itself. Being alive equals being meaningful.

It should be noticed that the human shows a particular way of behaving in the vicinity of others he is not familiar with. He acts as if he does not see them, as if he does not want to invest any form of attention into their presence. First of all, this type of behaviour does not express a type of blindness. Following the axiom mentioned it expresses quite explicitly the stance of avoiding unknown others. This is without a doubt a consequence of the shift from “Selbst zu Fremdzwang” discussed earlier. It also is not that improbable that the dense overpopulation plays a role in this curious way of behaving.



## Rounding up part II

These are but a few elements describing the basic condition providing the platform from which the human condition had to come into development. It at the same time points out characteristics the human line shared and still shares with the species most akin.

In order to provide an easy to catch overview the features have been listed in a concise form and to stress their particular character it will be accompanied by counterpart referring to mainstream thinking in a simplified manner.

Primordial condition	<b>Mainstream</b> (simplified)
<p><b>Taking Darwin in its full consequence: man is an species amongst species. Capacities to be understood in relation to operations executed in the public arena.</b></p>	<p><i>Man is considered a species apart from all other. Capacities are commonly understood as somewhat etheric abilities emerging from the workings of the brain.</i></p>
<p><b>Life is being driven by primary motives which at the same time makes it meaningful.</b></p>	<p><i>Life is a condition, a readiness which has to be provided with meaning.</i></p>
<p><b>An organism instantiated by a body is a function of the encompassing conditions it came into being. As such an organism is intertwined with a greater whole. The particularities of a body determine the way the environment is perceived and how it is negotiated.</b></p>	<p><i>Man is taking a position of isolation in the environment to which he relates in a confrontation. However knowledge cannot be else than brought forth by a bodily being, it is something which transcends the body. The body is divorced from knowledge, the person consisting of both is in turn divorced from the environment.</i></p>
<p><b>The meaning of the Umwelt is defined by the condition of the primary motives at a particular moment and by the abilities within reach of what the body allows.</b></p>	<p><i>The initial condition is one of emptiness which requires meaning to be attributed to it.</i></p>
<p><b>In this setting behaviour is best described in terms of the dynamics of Gestalt psychology.</b></p>	<p><i>Man is understood as provided with innate capacities tied to and at the same time transcending the material body. Cause and effect is the explanatory scheme overarching different paradigms (behaviorism, system theory, psycho dynamic...)</i></p>
<p><b>Action in the open environment is considered to be first line scene. The way that environment is getting understood directs what action is undertaken. Hence the label "phenomenal pragmatism".</b></p>	<p><i>Causes are attributed to the workings of the smallest constituent situated in the hidden deep (working of the neural tissue mainly)</i></p>
<p><b>The 4 E's of specifying the whole: embodied, extended, embedded and enactive</b></p>	<p><i>Man is understood as an isolated instance tackling the burdens of the environment</i></p>
<p><b>Across species any organism evaluates his position in meeting others and regulates the relation accordingly. This is so engrained that is part of being alive itself.</b></p>	<p><i>Man can choose to take a complete neutral, anonymous position, not transferring meaning of any kind</i></p>

Mainstream thinking is not a clear cut case easy to understand. It entails two lines of development, entangled in such a way that one obscures the other. It contains elements such as aboutness or in more philosophical wordings "cette distance nulle" as strikingly coined by Sartre. It is also about the stance of taking the position of an observer on the sideline of the action, the position of Archimedes who provided with the proper tool claimed to be able to tilt the globe. These are characteristics being part of an

evolutionary trajectory and not the subject of discussion in this text. But there is also the other strand determined by the particular historic content of the narrative dominant at that moment. Think of Plato's suggestion of a knowable truthful reality or the redefinition of the object as examples given in the previous paragraphs.

Despite the difference of the two lines of development, one having to do with psychology on the level of the human condition, the other with historical twists and turns, the question could rightfully be asked in what way both relate?

From out an extreme form of simplification – alas not all that exceptional, it could be argued that man is no longer an animal and by this cleave a radical abyss between the human and all other creatures.

There are signs however that an intervention of this type would be unjustified. Consider the application of psychology in the supermarket like the installation of moving lights and dispensing particular odours for instance, the lot triggering low level psychological mechanisms. Another example might be a situation of distress in which people react in completely out of rational control but sometimes doing the right thing. This suggests the model of a continuum with on one pole the basic characteristics mentioned in the overview and on the other a civilized person acting rationally and in a social context according to the rules of controlled politeness. In what direction the behaviour exposed will move will depend on the urge of the situation. In trusted conditions it will incline into rationality, in others into the direction of low level attitudes. Achieving the latter condition does not ask a lot of effort. Take the situation at the bus stop in case that a lot more people are waiting than room available in the arriving bus. Or stare someone you are not familiar with in the eye for a period of time. Poke your finger in somebody's chest. Take a sip from the drink of your neighbour at the bar. These are all easy to perform actions which might tip over responding behaviour into a basic attitude.

### **Taking Darwin serious, part 2**

Darwin signified the linchpin for a radical change in the view on the evolution and on the position of the human therein, hence the reference. But for what follows the title should better be "Taking the basic conditions serious" by this taking all the aspects mentioned into account. These sketch in broad strokes a basic condition of being bound to the present and local and an understanding of "the world" determined by the bodily abilities. This has profound consequences. It reduces the idea of a world which can be known 'as it really is out there' to a fiction.



*The fiction of being able to perceive the world as it really is out there*

But “fiction” should not be understood as “the meaning is no more than a fabrication”. It should be appreciated as being a construct whatever the meaningful content.

The basic condition determines that a representation – any for that matter - can

*a)* not be else than a construct brought forth by the means the human body disposes of, and

*b)* that construct is based on the manipulation of 2<sup>nd</sup> order stimuli.

As a counter example it could be argued that the earth is a sphere and that this is verifiable from the point of view taken by satellites. This misses the point completely. What else is there than to agree on the fact that the globe takes the form of a sphere? But again that is not the point because the discussion at stake unfolds within a different register or context, not unrelated to the semantic content but however different. The following lines will offer clarification.

Unless miraculous abilities might be assumed, there are three stages to be discerned.

First taking Darwin serious humans are species amongst species, animals amongst animals driven by the same basic motives, finding themselves in similar conditions and provided with similar functional abilities.

Secondly the different types of hominins resulting in the human line showed a development leading to a skill that allowed introducing an experience characterized by a displacement in space and time. Short, they could think about situations outside of the actual context and with building blocks of that kind they became able to compose narratives. These became taken serious at least on two points. *A)* the scenes offered an explanation of what was going on around them, and *b)* they guided behaviour.

Three, the previous points allow to conclude that a narrative is not a one on one corresponding depiction, but by its provenance it cannot be else than a construct.

This is one context, the narrative as a product brought forth by the embodiment, whatever the discourse it unfolds. It could be understood as the technical approach in contrast to the semantic offered by the narrative.

The other context refers precisely to the content of the narrative as a meaningful discourse. It is that which guides behaviour or broader it organizes the way the environment, the world at large, will be negotiated in the light of a goal (In the begin state that goal will be acquiring food, realizing shelter, finding a mate). Guided by the version and the action assumed to result in a satisfying way, the version will find confirmation and taken for corresponding how things are really out there.<sup>249</sup>

Both contexts are tied but at the same time very different issues too.

Is the earth a sphere? Well the interplay between the conceptualisation and the action confirms that version. Other animals will experience a different perception.

Yes but we humans are right!

Of course we are, but that is not the point. Being right is criterion finding development within a certain version and that version may be very successful in the negotiation of all what is, but is a particular version and as such an embodied construct and conceptualisation.

What is the point of that distinction?

Do I agree that the world is a sphere, a statement implying that I also could deny this fact (think of believers of a flat earth)?

Of course I agree, I am a human, a Westerner brought up in a particular conglomerate of versions. I am convinced that the way we understand the world - that is coming down to accept certain versions or conceptualisations - is successful in negotiating the world. But taking Darwin serious and finding it highly unlikely that the human as a species amongst species, possesses over mysterious capacities allowing to transcend the particularities of embodiment, I realize and cannot do else than accept that our appreciation of the world is a particular version and not a one on one corresponding true depiction.

Fewer and fewer people accept the idea of a personal God creator and master of all that is, in a similar way it is a matter of intellectual consistency and honesty to also accept the fact that knowledge is an embodied construct.

Another question is: does it matter for the way we negotiate the world?

In first instance taking this seriously raises a demystifying effect that might lose its magic feeling soon.

In second instance for the scientific practice, it actually does not matter unless... I will come back on this. It does not matter because observing science as a practice it is not about realizing an undisturbed view on the world, but about negotiating the world in a successful way. Returning to the "unless...". It seems that some need the prospect of a clear view on reality as an ultimate motivation to pursue the scientific quest.

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<sup>249</sup> The assumption is crucial. South American tribes once offered still beating hearts to the sun assuming that there action would provoke a positive result.

It is an argument somewhat similar to the need of a personal God otherwise life would be without meaning. In that sense this conviction serves as a giver of meaning.

In third instance it matters really. It fires up the awareness of responsibility. If the human fate and goal is in fact based on the storyline brought forth by the human himself, then he cannot but face the consequence of being responsible for the behaviour and the effects following from it.

This insight unveils and stresses his autonomy to its most extreme border. It is different from the insight expressed in Holy Scripture explaining that man is master of all what is on earth.

## Conclusion

Recall what initiated this contribution, a scientist stating that for an idea to be taken serious it should fit in the established body of science. It is an understandable point of view at the same time not quite unproblematic. Wanting to safeguard the scientific practice for all too wild metaphysical digressions it is a justified approach. But at the same it introduces problems of its own especially in the domain of the alpha sciences which are not easily susceptible for rigorous testing and measuring. Evaluation depends on the judgement of peers raising its problems. The pressure to conform to what is generally accepted if not even fashionable is not a matter of all too wild imagination. It could be an example of a real life experiment on the attitude of confirmation as conducted by Solomon Asch but on a grand scale. Understandable psychological mechanisms are in play. The scholar wants to be accepted in the scientific community certainly when an academic career is at stake. This all drives in the direction of cautious conformity, in a sense of self censure restraining creative outbursts. The tendency to float on common sense at the same time slowing down if not blocking creativity facilitates safeness. The issue of competition amongst academics will only be mentioned but it is equally determining what will be esteemed acceptable. Last but not at least, memberships to clubs and networks might play a role of influence.

There is also the argument or rather the directive that progress should be made by taking small steps, the proverbial piecemeal tinkering coined by Popper (1945/1957). This might indeed be the case or rather *a* case – one of multiple options - because there are examples of different forms of progress such as that of a punctuated equilibrium as suggested by Eldridge and Gould (1972). It proposes a slow advance taking small steps however interrupted by a radical jump forward. Furthermore also a sudden insight might occur as in the case of the structure of benzene viewed in a flash of creativity by Kekulé or the three dimensional organisation of the double helix when looking at a two dimensional ordering on a photograph taken by Rosalind Franklin who quite convenient seemed to be forgotten in the glory flooding Watson and Crick.

It is not the aim to pick on the scientific practice but one should not be all too naïve idealistic neither.

In sum, the endeavour to bring forth reliable interpretations accompanied by safeguard measures preventing all too wild speculation is of evidently meritorious but not a sacrosanct enterprise as often suggested.

The biggest shortcoming however is the blindness for the historic provenance of commonly accepted beliefs.

First of all the province of philosophy and history is often brushed aside quite rashly as not to be taken all that serious often veiled by the accusation of using all too obscure language. Secondly there are scholars

effectively focussing on the influence of historic interpretations such as Foucault, Deleuze, Ariès, Clagett, Lloyd, Descola, Agamben to name some. But all these concern in depth studies of a certain period or a particular subject.

The first part of this contribution tried to offer very basic ideas and appreciations which are underlying the accepted understanding of the world, anyway of how Westerners think.

The exercise took the form of integrating meaningful ideas into one picture, ideas so engrained in the understanding that they are taken to be natural evidences. It might be revealing to wake the awareness in the case of day-to-day understanding of the world, but the focus was to point out that the ideas mentioned also support the scientific frame of reference in a self evident way as in for instance the suggestion that there IS a reality out there exactly as we think there is. It could be said that this is no more than common parlance or a kind of a shortcut not really taken serious. However the observation that the terms “mind” and the qualification “mental” are part and parcel of common as well as of scientific thinking is impossible to overlook and contradict that assumption.

In short the goal was to unveil patterns of thought underlying common as well as in scientific thinking.

Where the first part came down to pointing out historic events, the second part drew upon biological, ecological and basic psychological factors opening a very different perspective. The idea was to provide well-founded explanations contributing in part the understanding of human behaviour as an animal and providing a platform which could serve as stepping stone allowing further theorizing about the development of an ape like creature into the modern human we are familiar with. This part provided an illustration for a mode of thinking out of the box.

### Intermezzo

Looking into the garden I observe a finch jumping from branch to branch trying to find a meal. I think of Darwin suggesting that all species are to locate in the same tree of evolution. With this in mind I wonder what the world for that little bird could look like and, what does that mean for my experience of the world?

Take the following analogy. People all over the world dress but differ by the type of clothing. Some are limited to a loincloth, others use fabrics based inventions used in space travel. The fundament is the same, the implementation is different. The finch and I have a world in exactly the same embodied way, but we differ in how the input is organized and processed.

The same exercise can be rightfully made in comparison with any type of living species: what is the world of the earthworm, of the butterfly, of the deer of the fish...

Richard Leaky's quote that man is the 5<sup>th</sup> ape (only) doing things differently confronts.

It urges to be deeply aware of that sameness and equally seriously ponder the question how exactly we are doing things differently.

# On storytelling, setting the human apart

*Essay*

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“Of interest is not particularly the character of things in themselves but the  
interpretations about it”

Paraphrasing Epictetus (50-130 CE)

## Abstract

1. The focus on semantics, why?
  - 1.1. The shared condition
  - 1.2. The transition
2. And now the problem
  - 2.1. Nuances
  - 2.2. Omnipresence
  - 2.3. The character of a transition
3. Full semantics
4. Minimal semantics
5. The necessity of a storyline
6. The relation to minimal semantics
7. A final quote

## **Abstract**

The human experience seems a never ending narrative. Whatever said or thought it takes the form of a report or storyline. Even formal expressions like logic or chemical formulas do not escape that condition. They are narratives under restrictive conditions.

Narration seems a defining feature of the human, enough reason to take a closer look at some characteristics. As it comes down to bringing forth a story rather than offering a one on one depiction, the burning question sounds why should it be taken serious after all? Further: are all stories of the same type and if not in what do these differ?

This contribution wants to offer some reflections on this intriguing subject.

## **1. The focus on semantics, why?**

### **1.1. The shared condition**

“It is only our natural prejudice, and that arrogance which made our forefathers declare that they were descended from demi-gods, which leads us to demur to this conclusion.”

Darwin, *The descent...*

(1871/2009, Cambridge - paperback, vol.1. chapter 1; p.32)

However most people accept the theory of evolution proposed by Darwin, few seem fully aware of its ultimate implications. When discussing the theory mentioned, the focus is mainly on heredity, on correspondences on the level of the genome, anatomy, physiology and on behaviour in the sense that behaviour and heuristics between species are getting compared. Rarely if ever the conclusion is getting drawn that the close kinship to other great apes implies that “both”<sup>250</sup> shared a similar understanding of the environment.

In order to finally be able to offer an insight in what changed, it is desirable to get some understanding of that shared or initial condition.

What is the core of that condition?<sup>251</sup>

There are at least two issues needing to be explained.

Firstly, experience is at the core of existing; it is first line. It collapses with it, it is synonymous to it. It could be argued that one is also able to think of experience and in that case thinking comes first. This ignores that thinking is a mode of existence.

The stress on the fact that experience is in an absolute sense first condition will become clear further.

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<sup>250</sup> “Both” only serves the rhetoric. The ancestors which eventually would evolve into the human species were part of the great apes.

<sup>251</sup> This has been discussed extensively in other texts such as “The Forgotten Transition” (2018); Building cognition, objectification as linchpin; Beyond the Material Engagement theory; chapters 1 & 2 in the supplement of The forgotten transition etc. The latter contains an inventory of about forty differences.



The second principle is about the determinants of behaviour. Nowadays the focus is on the workings of causes hidden deep in the person. Behaviour is often explained by referring to hormonal swings or shortfalls respectively abundance of neurotransmitters and the like. But whatever the effects of deeper situated factors, even if these are decisive for the way the individual understands the world, it is actually the understanding of the world itself which will determine the type of behaviour. Whatever the causes contributing an understanding of the scene experienced as friendly, it will be that experience itself which will raise behaviour accordingly.

Take an animal and for the sake of being able to raise empathy a mammal; it will not ponder the condition of the world but in first instance experience the fluctuations in the environment directly. It will respond to it on the basis of its understanding. Approaching an animal will often result in withdrawal as it will take it as threatening.

In short being alive is equal to a condition of experiencing and that will become coloured by the way the world is understood.<sup>252</sup> So far for the most fundamental condition which begs the question into the characteristics?

Here I will only mention a few, be it the most central ones.

The experience is centric, better still egocentric. It is often called the “*umbellicus mundi*”, the navel of the world collapsing with experience. It is primary motivated, meaning providing the drive to act in relation to the fluctuations experienced as relevant. The primary motivation being one dimension in evaluating what is relevant, the other follows from the abilities of the body. Experience is fully dynamic, a constant flux. However the term “consideration” is not appropriate even completely alien in this condition, the comment that in this condition consideration is absent makes it more easy to grasp it. It is iconic in nature. Again not appropriate but adding that there is absolutely no commenting and declaring language. Iconic should not only be understood in the sense of visual. It refers to an “image of the world” brought forth by a confluence of all sensory channels resulting in one compact image. Absence of the stance of consideration and of act of commenting implies a condition of directness. What is relevant will in the experience take foreground while all other details vanish into the background. It is important to realise that this experience of being a world rather than to have a world is taking a here and now dimension. It is bound to the local and the actual; moreover it is collapsing with it.

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<sup>252</sup> This has been called pragmatic phenomenism; the latter for the world appearing which in fact collapses with the understanding of it- two aspects of the same; this motivating responding behaviour.

### ***The basic – shared – initial condition***

CORE	CHARACTERISTICS
Experience raised by the understanding	Centric – egocentric World and experience collapse into one Dynamic Iconic Direct  Relevance of stimuli determined by - condition of primary motivation - abilities of the body What is relevant takes foreground

instantiating an *or* collapsing as a here and now dimension

This depicts in a simplified version of the condition the last common ancestors shared. Essential is to understand this thoroughly. In this condition there is no question asked into the meaning or the sense of things happening. What is happening is meaningful from the very first moment; what is going on equals making sense. The condition of questioning does absolutely not exist, it does not occur at all. The void provoked or expressed by asking a question is of a very different order altogether. It is not existing in that stage in the same sense a television set did not exist in de Middle Ages and any reference to a contraption like this would absolutely been unthinkable, nonsensical. The same goes for the duality being free versus not being free, of unbound or ungrounded versus bound to the situation at hand. The condition of being free (to make a choice) is a qualification sprouting from a condition which at that time did not exist at all, which in the same way as previous example – the ability to question – could not have been thought of. From the point of view of modern man behaviour in that condition could be considered as being determined in a heteronomous way, that is triggered by internal or external stimuli in contrast to autonomy referring to the ability to take initiative oneself. But again these terms are anachronistic. They are projections from a contemporary frame of reference onto an era in which these conditions did not exist at all hence the terminology is in no way appropriate.

A good understanding is necessary of getting to grips with the different condition which will characterize the later (the actual) human.

#### **1.2. The transition**

I have taken effort to elaborate on the previous subject because it is essential to raise an understanding on a condition of pure dynamic existence in which the act of reflection or the stance of consideration is absent in an absolute sense.

It is now the right moment to refer to the transition. This has been extensively discussed in other writings<sup>253</sup> so I will be brief here.

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<sup>253</sup> The Forgotten Transition (2018); Building cognition: objectification as linchpin; Beyond the Material Engagement Theory; Hand and imagination... to mention some.

The transition focuses on the shift from a dynamic existence as described in the previous paragraphs in the direction of a particular way of producing tools bringing forth a reorganisation of the perceptive cognitive organisation. In short it results in a perspective on the world as a set of manipulable objects while the underlying dynamic is that of mediated manipulation. This leads to a stage of development which could be coined the technically skilled hominin. This was not only a case of technical proficiency but went with a change in perceptive cognitive perspective. The reconfiguration of input into an object pattern has been mentioned. But the perspective is about the appreciation of what is perceived as being on a distance. The object perceived is appreciated as being over-there, in front of the perceiver, ready at hand. The angle of perception changed with it into a kind of super-vision, a looking upon, a stance of consideration.

All this is one drastic step away from the hominid but it is not a human yet. That stage follows from a further development which – it should be stressed – is contingent. It happened because the circumstances were favourable for its coming into being but there was no teleological goal forcing it to happen as often suggested.<sup>254</sup>

The factor triggering further development can be summarized by the term “displacement”.

I will now elaborate somewhat on this because it provides the stepping stone into the problem at the core of this contribution: the urge to bring forth narratives in the first place, the difference between full and minimal semantics as the real subject.

The dynamic or mechanic

In order to clarify what it is about a passage from “The Forgotten Transition” will used

#### *“II.1.1.5. Association and displacement*

Occurring events result in the organism being aroused and directed towards the centre of the event. By repetition, types of events are becoming associatively coupled with certain types or meaningful contents of arousal. This leads to the effect that a significant detail of an event suffices to activate the global corresponding type of arousal. This is quite a trivial mechanism occurring in many species at least those provided with the same type of neural architecture. Man is no exception.

A special property of an aroused state of that kind is that it does not only bear content value restricted to the event itself. Thus the stimulating detail in the event not only announces the event to come, as for example a certain noise announces a so far invisible predator. In fact it reactivates neural correlates of which the specific configuration acquired form during earlier events of similar type. As such, a state of psychic and motor excitement related to events in the past and

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<sup>254</sup> Holloway for instance mentions a social need, groups becoming ever larger. But what about Gelada baboons living in groups of at least five hundred individuals, why was a similar need not occurring there?

probably also in another location, are being brought to life. Therefore the naming of such a reactivated state as 'a remembered present' by Edelman is strikingly accurate.

This makes it evidently clear that the actual reactivated state of the organism is in part related to something falling out of the actual context. As such it realises a **displacement in space and time**.

The same is true for the use of means or tools discussed in previous paragraphs. This use is not a bare or cold functional act. The handling of the tool is immersed in meaning i.e. associations with particular experiences of previous manipulative events. As an extreme example, a hammer stone used in a heraldic fight with an enemy is compromised and as such loaded with meaning<sup>255</sup>. The renewed manipulation of that particular tool will always wake some reminiscences of that feat, Edelman's remembered presents.

Associations of that type are not exceptional. They are equally present in the dog seeing the boot which caused him harm in the past. It will result in a state of fear, withdrawal and a furious reaction.

**The uniqueness of the human situation** lies in the fact that associations of this type can become coupled to means with an "object"-character as previously described in the case of the stone tool with the flaked rim. In situations of that kind associations do not only *happen* to the individual. By the detached character of the object the manipulating individual can instigate the associative state himself. Formulated differently, **by use of the mediating object he can provoke the displacement himself** without being fatefully forced to it by the contextual circumstances. At this very point, self-induced imaginativity germinates.

Observe that this at the same time expresses the act of choosing based on deliberation, i.e. voluntary choice. The deliberation being that the association evoking tool can be presented to bystanders or left aside at will, as it fits the actor.

This deliberate choice became possible in the turning point where the embedded and bounded event made room for the scheme of detached "object".

The core of this

- a stimulus not only provokes responding behaviour, it also fires up stored information on the basis of previous similar experiences
- manipulation of tools brought with it 1) an ability to make a choice and 2) the availability of an implement which might be used as a substitutive stimulus

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<sup>255</sup> As a matter of fact, this situation makes part of a second layer of meaning. Any tool is a natural index of its use as Byers (1994) observes. In that sense, a particular type of tool is used in a specific context (hunting and butchering for instance and the preparation of meat for the group meal) composing what could be considered a first-line meaning. But apart of that referred to here are specific events and occasions which are contingent. An unexpected fight in which an enemy was killed for instance adds an extra layer of meaning. In "Hands and Imagination" the levels of meaning have been dealt with in more detail. It is offered here as a note in the margin not changing the line of thinking of the actual problem at hand. The first level is based on the relevance of some input in relation to the condition of the primary motives. The second – easily overlooked – level is determined by the type and the construction of the body. For the human the position, the abilities and the function of the hands are at the heart of the way the human will approach and understand the world. The third level rises from the tool supporting action, the tool having a dedicated function and task (a sharp rim is for cutting). The fourth level is based on association. Much later in the development two more levels can be discerned. The fifth level is meaning by stipulation (verbally defining) and the sixth is meaning raised by projection (metonymy, metaphor).

- thus the ability to provoke an experience with as content a displacement in space and time

This is a fact of utmost importance, a fact lifting the technical proficient hominid onto a developmental trajectory on the way to become more of a hominina, a human.

Some noteworthy quotes

- Morford & Goldin Meadow (2001) speak of “displaced reference”
- Gärdenfors (1996) of “detached representation”
- Coolidge et al. “(...) consider the tool showing a permanency in time as the stage on which displaced reference could come into being.” (in Bruner, 2015:182)
- Bickerton stresses the value of displacement as in “I am not suggesting that protolanguage, at its birth, had the unlimited capacity for displacement that forms so salient a feature of language. But the emergence, at some specific time and place, of the first signals that did not refer explicitly to the here-and-now would have represented the crossing of a clearly marked frontier rather than a walk through a gradually changing landscape. (Arbib & Bickerton, 2010:170) and further “There is good reason to choose displacement as the first protolinguistic development (171-2)
- Friston (2005) and Friston et al. (2017) the active inference theory
- Bar et al. (2006) discussing predicative processing
- the idea of mental time travel as offered by Tulving (1984), Suddendorf & Corballis (2007) and by Suddendorf (2013).
- Hockett (1960), linguistic anthropologist, listed design features of language; displacement is mentioned as one only present in humans
- The relation between a tool or object and a sign as something provoking meaning is getting expressed in the following quotes: “...the basic analogy between sign and tool rests on the mediating function that characterizes each of them. They may, therefore, from the psychological perspective, be subsumed under the same category” (Vygotsky in *Mind and Society*; 1978) and, Holloway (1969/1992:48) “...I will argue that tool making and language are similar, if not identical, cognitive processes...”
- The implement in function as a substituting stimulus is referred to by Dickins (2001) as stimulus equivalence; as a matter of fact it got already mentioned by Plato in *Phaedrus* when criticizing writing to be a “hypomnèsis”, an instrument used to recollect, that is to provoke reminiscences.

It will be clear that provoking series of reminiscences this way combined with the ability to make a choice opens a gateway in construing story-like orderings, scenarios, descriptions and explanations.

### **Building narratives** (extract from *The Forgotten transition*)

The structure of (1) self-initiated (2) mediated manipulation gives rise to (3) imaginative displacement. That driving dynamic in particular the object in its function as substitutive stimulus combined with the ability of making a choice, can not be valued highly enough.

From then on the experience of the world is no longer something that only happens to man. In the new situation he is able to bring experience into play by organizing material means that provoke states of arousal related to events characterized by displacement in space and time. We find a similar idea in MacWhinney (in Givon and Mall, 2002:239) "In the model developed by MacWhinney (1999a), this first level of perspective taking involves the shift from direct perception and action to stored mental representations of perceptions and actions."

In this way, an imaginative dimension gets - as an extra - added to the immediate bound experience. MacWhinney again "This is the first step in what I call the 'ungrounding' of cognition." Provoking self-induced imaginative displacement - and it should be stressed as a by-product of the manipulation of tools, realizes a shift in the development of a different order. It is no less than the stepping stone to what can be appreciated as the typical human culture, i.e. this mode in which imagination performs a pivotal role. It is not only the stepping stone but also the rupture in relation to the type of cognitive abilities of other animals, however close anatomically and genetically they may be. The perceptual and cognitive world of the human becomes very different.

But the magic of this type of experience based on displacement reaches further still. The manipulable object in its function as a substitutive stimulus can become associated to the properties of the manipulating human himself such as speed, force, success during hunting or in defending the group against a threat... This implies that the manipulation of the object in question can provoke a particular state (arousal, intention, directionality...) related to events which took place at a moment in the past located somewhere else. So he can provoke displacements mirroring properties of him-self or of events which constitute his history of life, in short properties characterizing his self-image and -history<sup>256</sup>. This comes down to narration<sup>257</sup>, narration of the self as a special case."

In short, the human becomes able to provoke imaginative content in the experience. But this product is not presented as something in isolation, as something completely set apart. It flows together with the outcome of direct perception as such presenting one stream of experience. In the experience it does not make a radical difference. Being present in the office – a tangible fact, and consulting the agenda for meetings to come – an imaginative content, both form one stream in the experience. No one will comment that the meetings planned are not real. Not being different concerns the level of appreciation. Everyone will agree that there is a difference in quality. Thinking of a lemon or taking a bite in the fruit makes a remarkable difference. But while everyone will be aware that the lemon in the imagination is indeed no more than an imagined unit and as an imagination not rich in quality, no one will doubt about the reality of the fruit referred to.

In the day-to-day flow of experience it makes no difference and by this it extends the world with a complete new realm. The cow does not ponder the problem where to graze tomorrow, the experience

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<sup>256</sup> "Quaestio mihi factus sum" in Augustine's *Confessiones* (X, 33, 50), meaning "I have become a question to myself", illustrates very strikingly the act in which the manipulator objectified himself.

<sup>257</sup> For an explanation of the features of narrativity see Bruner (1990); in this context see also Dennett's "The self as centre of narrative gravity" (1992). For the development of narrativity as the substrate, even cause of the complexity of a full blown language, reference can be made to Barnard (2013).

being closed, bound to the actual and the local. The human can freely consider different opportunities. He is able to decide and initiate to think about happenings to come, recall events from the past. That signifies beyond any doubt enrichment. It has a flipside, which might even be considered a downside. It is that mode or condition coined by MacWhinney as becoming “ungrounded”.

At this point the real subject, even issue, is entering the stage. The previous pages were necessary to understand the situation which might be seen as problematic, but on the other hand precisely exposes the condition characterizing the human.

## 2. And now the problem

Composing narratives, in particular the character and implications of this ability is the subject to be discussed further. But before starting with **this a few nuances** should be made clear.

### 2.1 Nuances

What is discussed here is the ability to introduce scenes of imaginative nature in the experience and further combining these into simple storylines in a way parallel with what is called protolanguage. It is not about the full-fledged narrative forms modern humans are familiar with. Compare with the quite scant software interfaces from the eighties only offering what was strictly necessary while today the screen bombards the user with a rich visual environment.

**Secondly** the development sketched has nothing of a short term realisation. Two hundred years separate us from the industrial revolution while the step from Oldowan type tools to Acheul opens an abyss of about one million years or from Oldowan to the appearance of the modern human around three hundred thousand years doubling that window of time to an enormous two million. This should absolutely be kept in mind.

**Thirdly**, today the function of a narrative is understood as some form of transferring information. In *The Forgotten Transition* (2018) the hypothesis got formulated that the motor driving and maintaining the dynamic of provoking imaginative content in the other was the observable effect. It brought the other (and the actor) in a certain psychic state, a kind of excitement, of ecstasy, of exaltation tending to belong to the realm of the magical and the mythical. But whatever the initial nature by making reference to some event from the past, it also had an informational dimension. The hypothesis mentioned that overtime – over a tremendous span of time – the informational component gained importance.

To round up the **fourth** remark wants to draw the attention to the complex nature of a displacement discussed. It obviously consists of a displacement as experiential content but it shows a particular perspective which is not exactly at stake here. A displacement expresses content which is considered as from a distance – we talk about something as existing over-there, and taking a particular stance – about something, considering it, looking from up to down-there. Distance and consideration are borrowed from

out the dynamics involved in the development of tools.<sup>258</sup> It complicates the subject but again this is not the issue here. The issue is the imaginative formulation and extension of the Umwelt, the world as showing up in experience. This implies particularities and the discussion will exactly about these.

## 2.2 Omnipresence

Let us begin with a striking observation made by Bickerton

“(...) the capacity to refer to objects or events not physically present — is an all-or-nothing category, like marriage or imprisonment: you’re either married or not, in jail or out of it, and signals either refer exclusively to the here-and-now or can go beyond it. I am not suggesting that protolanguage, at its birth, had the unlimited capacity for displacement that forms so salient a feature of language. But the emergence, at some specific time and place, of the first signals that did not refer explicitly to the here-and-now would have represented the crossing of a clearly marked frontier rather than a walk through a gradually changing landscape” (Arbib & Bickerton, 2010:168)

It is an all or nothing category!

However the examples which will follow fall short, they offer a hint on how to understand this.

Someone who has learned to swim cannot unlearn this skill. Once acquired there is no way back to the previous stage. Today more than ever, we are immersed in the effects and possibilities provided by the global network. Even if it would stop to exist it would be impossible not to ponder its possibilities. An aboriginal in black Africa never been in touch with Western civilization has no clue about the offerings provided by a television set. He does not miss it, it simply does not occur in his world. Until one day... and then there is no way back.

The same goes for the introduction of the ability to provoke imaginative content to one self. Once this step made, there is no way back.

Bickerton rightly observes “the emergence, at some specific time and place, of the first signals that did not refer explicitly to the here-and-now would have represented **the crossing of a clearly marked frontier** rather than a walk through a gradually changing landscape...”

We have transcended a frontier he says but the full impact of this should be made clear.

It is not only a matter of adding an extension – imaginative in kind – to the experience. It is as a matter of fact growing out to an interface encompassing or veiling the whole of experience.

Philosophers should remember Berkeley and Husserl proclaiming that consciousness or the mind provides the very first interface in experiencing the world. Of course we are flesh and blood, we feel pain and joy but whatever we experience - in so far it is not already provoked by a word as a stimulus of second order, it immediately is veiled in words. It is translated into some form of narrative raising a particular semantic field by this providing a particular meaningful interpretation.

One might argue that he feels toothache and only then reports about it. Agreed, but the point to be made is that as soon the pain rises it has become impossible not to word it, aloud or in verbal thought only. I

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<sup>258</sup> Reference to another contribution *Making a world appear*, sub *Manipulation as the basic template for negotiation*.



invite anyone trying to think – anything – without immediately if not as first the appropriate words popping up.

Moreover words – triggers of imagination – provoke in a circular movement complete semantic fields. Take the word “milk”. No one will in that case think about stuff that makes an engine run but of cows, farms, meadows, butter... etc.

Concluding: as soon as this mode is entered it is impossible to avoid it let alone to roll back the development.<sup>259</sup>

### 2.3. The character of a transition

So far we had the omnipresence, not as something we actually have at our disposal but as a mode of being, a mode of approaching or of negotiating the world.

The second characteristic is about the nature of this transition. The term transition refers to one condition changing into another. One understandably focuses on the opportunities gained far less on what is no longer available and that is precisely what MacWhinney has in mind when writing about *the shift from direct perception and action to stored mental representations of perceptions and actions*” strikingly adding “this is the first step in what I call the ‘ungrounding’ of cognition.”

The ground is getting lost calling into question “what is meant by grounded cognition?”

Let us turn to the prototypical cow again, as a matter of fact to any non human animal. A scheme has been offered earlier summarizing some characteristics of the basic initial basic condition. That comes down to a lived or experienced volume determined by the abilities at the same time confinements of the body by this circumscribing the reach in time and space. This implies a topological situating and a reference to a position on a time scale. The former is easy to understand. It covers a space defined by the reach of the sense organs and of the motor capabilities from within a static position. How far is an organism able to reach with all aspects of the body? Concerning the time dimension, research showed that that perception and action functions optimal in units of up to three seconds while short term memory reaches between twenty to thirty seconds.<sup>260</sup> Even if there could be doubt about short term memory being a proper measurement of the lived present, these findings give an indication of the range in time covering what in experience is considered as the present, the so called now-moment. Of course animals are able to make use of heuristics in finding food or drinking resources and given an actual observation foresee where a prey might appear in the field of vision but all these are subjects of a different order altogether. Man is able to consider different options for the future, make a choice and in the end decide not to proceed to execution. Animals do not have these possibilities at their disposal. For an animal conditions of life may be a never ending burden, they are always getting triggered. This might be fired up by internal conditions such as being hungry or by external forces as by the appearance of a threat. Animals are subjects of determinants. Life in all its aspects is controlled heteronomously... no questions asked and in that sense no doubt present.

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<sup>259</sup> As discussed in *The Forgotten Transition*, chapter 2.1.1.3.

<sup>260</sup> Pöppel, E. 2009. Pre-semantically defined temporal windows for cognitive processing. *Phil Trans R Soc Lond B Biology* 365(1525): 1887-1896.

For the human however plural scenes in imagination open the opportunity of making a choice. It follows from the coherence of objectification, the stance of consideration and the ability to provoke displacement in the realm of imagination. It is a novel and absolutely useful acquisition. However there is a downside. The ability to make a choice creates openness and with this the problem what to choose. It introduces doubt as a condition that did not appear – in that sense even exist – before.<sup>261</sup> The prior unconditional heteronomous determination has vaporized.

It is at this point that the quotes of MacWhinney and Bickerton meet. Cognition is no longer grounded while this is an all or nothing condition.

This stage in the development is crucial.

Recall Husserl mentioning that our first contact with the world unfolds in consciousness or as a manifestation of consciousness. Translated to the context of the actual exposition the displacement taking place in imagination – as an *all* mode – took the position of cognitively being grounded. The human crossed a clearly marked frontier as Bickerton says, he entered a new mode of orientation and understanding of the world, moreover a condition once acquired impossible to unlearn, recall the skill of swimming mentioned.

In short the human has – stress on *has* - to bring forth displacements in the experience, he *has* to built scenarios in order to subsist, he *has* to construct narratives because the heteronomous determined cognitive ground has been lost.

The bottom line is that the way the world is appearing in experience is getting framed by contents of imaginative nature.

Before discussing the distinction between full and minimal semantics, one more clarification should be offered.

Following the line of explanation so far offered one might assume that narratives have to do with projections in time, recalling past events, thinking about the future. There is however more to it. Looking into the garden what we perceive is forced through a verbal conceptual filter. A fragment of raw sensory data is immediately getting translated in verbal concept itself being part of a more encompassing semantic field. One the concept of tree triggered we think of the blossoms and the fruit, maybe recall the moment it got planted, a tree we like to preserve it as resting place for birds etc.

## Summary

The understanding of the “world” based on embodied sensory input in tension with the condition of the primary motivation has been replaced by an interface using imaginative content framing the understanding. This mode is triggered by secondary stimuli of which the semantic payload is arbitrary. That implies that the interface is a construct of which the meaning is arbitrary. That characteristic does not

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<sup>261</sup> There occurs a condition in animals too, a fraction of a moment in which the animal seems to be frozen between alternatives such as fight or flight. But this bears more the character of a circuit being shortened the eventual decision made a matter reflex or intuition, not a matter of consideration.

imply that the meaning is taken as non committal and can be exchanged at random. Estimated as real it acquires the status of being real and as such a guide for behaviour.

### **3. Full semantics**

What has been explained comes down to the following.

- The human cognitive condition phrased in a positive sense is based on openness, in a negative sense it is characterized by uncertainty and doubt.
- This condition of being without grounding has been caused by the introduction of the ability to provoke imaginative content and has at the same time to be answered by it, hence the continuous flow of narratives. It at the same time embodies the deficit and the cure.
- It is an all or nothing condition and once acquired it can not be undone.
- The human understanding of the world is a closed set of storylines and semantic fields based on displacements.
- The implication is that all that is produced by this ability or better still "skill" is a construct, a storyline composed of different scenes.
- The awareness of that fact makes it clear that the human has no one on one corresponding view on the world but on a phenomenon constructed by the skill mentioned.
- That construct repressed negotiation based on inherited and learned behaviour, heteronomous, grounded and closed in nature. It allowed organizing the setting in an autonomous way, taking different narratives into account and this in the perspective of reaching a goal set, the latter also a fruit of that novel ability.
- The conclusion may be short: all is version, storyline or discourse.
- Narration overtook the previous approach still present in non human animals; however the same goal - survival - remains.
- The awareness that all is discourse confronts with the responsibility in relation to the consequences of the adopted version.
- The disappointment – even unwillingness to believe - that this does not provide a truthful view on the world follows from a version with an identifiable historic provenance.

### **4. Minimal semantics**

The idea behind this approach is to reduce the influence of the content of storylines even abstracting these and restrict to listing procedures and strategies in order to realize a certain effect. It would be naïve to assume an absolute condition of abstraction in that domain. Every manipulation is borrowed from a context in which it has meaning. In this case that is mediated manipulation of elements recognized as

objects.<sup>262</sup> That perspective has an important implication. The structure and dynamics of it will define how fluctuations in the environment will be negotiated.<sup>263</sup>

The goal of minimal semantics is to make abstraction of interpretations reaching beyond the restrictions mentioned. The range covered is broad. It goes from listing procedures on how to make soup, to how to ride a bicycle and subjects most interesting, on how to realise so called mental achievements like reflection. The endeavour is in line with Lloyd Morgan's advice not to reach for interpretations in the realm of higher psychological processes when answers could be found in workings on lower levels. Agreed, he focused on animals, but the principle can as well get applied in the case of the human.

It offers an alternative for an all too essentialist inspired approach such as for instance offered by Penrose believing that consciousness is a manifestation of the quantum cytoskeletal state and its interplay between quantum and classical levels of activity. This might sound as an extreme illustration but unfortunately that type of approach is common. It is effortlessly accepted that cognition and different kinds of behaviour emerge from the workings of the neural tissue by this neglecting completely the execution of operations in the public area and elements in the environment playing a role essential to such a degree that cognitive states would not be possible without it.

It does not mean that essentialism has no ground – this is actually not the place to engage in that discussion; the point is that it absorbs all attention by this veiling all other possibilities. The expectation is that the focus on manipulations and procedures can offer answers and solutions lying in front of the observer in so far he actually takes the effort to look.

Avoiding historic based interpretations might effectuate a sobering if not purifying effect as the actual literature is still littered with references to intellectual atavisms such as Plato's proposal of the existence of an observer independent reality in the first place, which on top of that lays reach of the human using the right methods. The idea of mind-like or mental working by this tacitly maintaining dualism is another example of an understanding based in the mists of history.

Minimal semantics can be thought to show a degree of family resemblance to process philosophy. In essentialism the substance or the essence of the human for instance remains what it is while sickness is something that accidentally happens to it. From that point of view change is an accident, an attribute, something not really belonging to it. In process philosophy on the contrary there is no question of an unchangeable essence. Thinking in terms of processes which in principle can be described, is the perspective to be taken. Philosophers such as Nietzsche, Heidegger, Peirce, Whitehead and Deleuze shared that idea.

Minimal semantics is also akin to operationalism as defined by Percy Bridgman. He suggested describing experiments in terms of measurable operations. Minimal semantics wants to confine itself also to a pure technical registration of manipulations executed or to execute in order to raise a particular effect.

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<sup>262</sup> Reference to footnote 9.

<sup>263</sup> This subject has been discussed in "Hands and imagination" (chapter in "The fifth ape")

## 5. The necessity of a storyline

The conclusion that the interface instantiating the human condition generates storylines might provoke an all too hastily made judgement. If it is no more than a discourse in principle replaceable by any other, what could be the value?

First of all being human, generating discourses is precisely what opens abilities not present in other animals. That might well be “the” quality to value. Secondly once acquired this mode the human has to do with it. Thirdly being able to offer a scenario implies that humans are able to set their own values and goals. Agreed, storylines around magical mythical elements may not offer the best of options, but proposing a model focusing on the interests of all people while taking available resources and abilities into account might be something to value.

## 6. The relation to minimal semantics

On closer inspection both modes have their proper advantages.

Apart of the fact that it cannot be avoided which in itself is not an advantage but a fate, full semantics offers the ability to set goals based on values. As such it provides the framework in which the common and individual way of life can be organized.

Minimal semantics by definition can not do that. Its method however delivers an economical and fair result.

In short, the human needs meaning; minimal semantics offers the most appropriate approach.

## 7. A final quote

“Whereof one cannot speak, thereof one must be silent.”<sup>264</sup>

This famous quote from Wittgenstein suggests that there are subjects which are not susceptible for discussion. This expression refers to something “that what escapes being spoken about”. Following the line of the meaning expressed, there is somewhere really something existing – a referent – which cannot be spoken about.

However observe the different levels. What is getting expressed is the content of the story (telling that there is something...). It makes it look as if the speaker of this sentence is a neutral invisible instance pointing out xyz. But this very act – because there has to be a speaker otherwise nothing spoken – is also a storyline. All this encompasses the dimension of full semantics. Minimal semantics in turn is about the task to describe the procedures allowing this sentence to be uttered, and further how this very thought “of something which cannot be spoken about” could be brought forth altogether.

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<sup>264</sup> 7. Wovon man nicht sprechen kann, darüber musz man schweigen”, (Wittgenstein, 1922, Tractatus)



# On uniqueness

## General setting

- The problem

- Harvesting, a crude list

- The diversity ordered

- Mediation, a second ordering

  - Unmediated

  - Mediated

  - Discussible characteristics

- Notes – discussion

  - “Object” is not a natural kind but a construction

  - From concrete and particular tool to general concept

  - From action to cognition

  - Stress on action in the public realm

  - The actual human cultural society

  - On consciousness

- Concluding

- Postscript





## **General setting**

Previous contributions discussed related themes.

The light bulb moment which initiated this research project was fired up by the observation of a remarkable difference between stone tools used by some species of apes compared to examples brought forth by species which would become human.

The idea behind the upcoming insight was that in the same sense as the erection of gigantic monoliths allows the deduction of a large coordinated workforce and the necessary cognitive organization to that end, the difference in the appearance of the tools provoked conclusions about cognitive characteristics familiar to contemporary humans but apparently absent in species most akin. The then ongoing research consisted in charting the characteristics of what got shown by the findings and also the abilities opened by these.

## **The problem**

This contribution will share the same sphere but focus on a particular aspect; the question of what it is that makes the human unique?

It is tempting to confuse it with another theme closely linked, the question on what caused an apelike creature to evolve into the human we are familiar with. For that subject the overview "Explaining Human Origins" composed by Wiktor Stoczkowski is highly recommended (1994, translated in 2002, ed. Cambridge University Press).

"What makes the human unique?" can be rephrased as "what is it characterizing the human in a decisive manner?" It reaches further than "what is unique to the human?" Blushing or sweating as thermoregulation for instance does not seem to occur in other species and as such is an expression of uniqueness but it will be clear that it is not this characteristic making the human species to dominate the globe, nature and all other species. The question is what is it enabling the human species to stand out and dominate the world, by this setting him apart from all other species?

## **Harvesting, a crude list**

Skimming relevant literature watching explanations and debates on You tube and Vimeo allowed collecting numerous characteristics which had been viewed as unique to the human. In the beginning I did not discern "unique" from "unique and decisive" as that difference was not readily observable, it needed some weighing of arguments. In a sense the flood of suggested characteristics was interesting in itself as it illustrated different perspectives.

The following list offers the characteristics as randomly found.

- Speech and language (some referred to the Foxp2 gene)
- Upright posture

- Related to previous: bipedalism (but take into account that birds are bipedal too, as are kangaroos)
- Nakedness (not hairless, humans are said to have the same amount of hair as apes but of a different structure)
- The previous going with being covered making use of external material (grasses, skins of other creatures)
- Brain-body ratio (mentioned a lot but actually not extreme; the ratio for small birds is 1:12, for humans 1:40. There is a lot of discussion on the criterion used.)
- The organization of the human brain allowing particular capacities (To a degree referring to the brain-body ratio, Ekatarina Semendiferi observed that the proportionally the frontal cortex of chimpanzees was not different to that of humans. This is relevant because there is often a lot of importance attributed to that region.)
- The freeing of the upper limbs in particular the hands.
- The use of fire.
- The use of fire to cook food (predigest).
- Long dependent childhood.
- Life after the procreative or fertile period.
- Burial of the deceased.
- Ornamentation of the deceased plus burial of weapons, food, furniture, etc.
- Previous characteristics suggest the application of rituals.
- (...) suggests spirituality.
- Found ornaments interpreted as art-forms (could as well be considered to be magic-mythical).
- The condition of experiencing wonder, amazement.
- The ability to ask questions (language is needed but the stress is on the stance).
- Self-adornment.
- Generating love, not strictly to another person but a general condition (love for all humans, nature...)
- The making of tools; the use of tools to make tools, complex tools...
- Free will, ability to transcend being bound to the circumstances of the local and the actual.
- The use of moral criteria (transcending direct relation regulation)
- The application of justice laws and rules.
- The ability to bring forth and to experience representations no longer bound to trial and error.
- The ability to manipulate representations in one's experience.
- The ability to transfer and thus share representations.
- The ability to bring forth, recognize and manipulate symbols, to manipulate these in mind; to use these to bring forth a world of our own making
- The experience of having an inner world.
- The ability to generate questions and formulate hypothesis.
- The ability to invent measurements, different systems of measurement, to introduce systems of coordinates.
- Being able to know about, to reflect on the world and what is happening in it.
- Being able to turn the previous ability onto oneself known as the act of reflexion.

- The ability not only to ask questions about causes and coordinates but about the sense of being, about ourselves.
- Having 2% different genes to our next akin species (approx 6 million “letters” out of 3 billion).
- Testifying of extremely complex organized social organization and society.
- Ability to appreciate mortality.
- Time-travelling, anticipation of the future, looking back on the past in matters of personal life but also of more abstract references (big bang, light years...)
- Making use of external and extended memory systems (books, internet, film...).
- Able to mechanize inter-group conflicts and execute on long distance (bombardments, drone attack...).
- 2<sup>nd</sup> degree theory of mind: “knowing” what another person knows of the mind of a third person.
- Sublimation such as channelling aggression in sport.
- Vicarious channelling of aggression as in watching competitive sports.
- Vicarious empathy as in “feeling” the pain of an animal and even abstract items as fantastic figures in animations (which actually are suggestive forms on pellicule or pixels such as talking piglets, or printed narratives, drawn even stylized or written)
- Able to exert inhibition and postpone reward even over a long span of time (as in the prospect of finishing a multi year education).

### **The diversity ordered**

This overview seems an epitome of a rich diversity. It however does not show the attributed importance. That is without any hesitation claimed by the brain or the workings of the neural tissue. It focuses almost obsessively on the workings of the smallest constituents in the deepest of what is subject of research, in this case the human organism. It is a perspective already present in the thoughts of Galileo expressed in “The Assayer”, but also present in Newton, Beekman, Gassendi, Mersenne and others in the 16<sup>th</sup> and 17<sup>th</sup> century. It fits with the shift of the centre of attention from the heart in the direction of the brain; a shift in which Thomas Willis a physician from the 17<sup>th</sup> century played an important role. Both aspects, the focus on the smallest of constituents and the brain, provide the historical underpinning of the actual interest. It seems to be responsible for what the French call “une ivresse des grandes profondeurs”, a kind of dizziness occurring in divers. It certainly stimulated the research on the level of the neural workings bringing remarkable progress in that domain, but it at the same time is responsible for quite unrealistic expectations.

Hoping to find a common denominator the task at hand is to realize some order in that plethora of characteristics. A crude and discussable distinction could take the following grouping into account:

- anatomical characteristics
- abilities (broadly taken)
- artefacts and skills
- the social dimension
- values and rules
- characteristics involving substitutions and sublimations

<b>Anatomy/physiology</b> Upright posture Bipedalism Freeing upper limbs/hands Hairless Body brain ratio Organization of the brain 2% difference in the genome	<b>Abilities</b> speech language Wonder Questioning where or what-about Questioning causes and the sense of... Making hypothesis Generating love Free will Making representations Sharing representations Creating an inner world Reflect on what is in front of Reflect on oneself/reflexion Appreciating mortality Time travel Inhibition of behaviour Postponing rewards
<b>Artefacts &amp; skills</b> Clothing (skins, grasses...) Mastering fire Cook Making and using complex tools Bringing forth symbols Manipulation of symbols Use of external memory systems	
<b>Substitutions/ Sublimations</b> Ornamentation Art forms / esthetics Mechanizing behaviour (transport, war, production Vicarious channeling of aggression/sports & in watching sports done by others Extended empathy (non species, abstract figures...)	<b>Social dimension</b> Long childhood Long life after fertility Burial of deceased Rituals Complex social organization
	<b>Values &amp; rules</b> Moral Law/justice esthetics

### Mediation, a second ordering

More than often the same candidates are mentioned in the literature. Relative brain size seems to take the cake followed by language, making and using tools, bipedalism in changing sequence. Brain size compared to the species most akin is indeed remarkable. But in itself it does not mean a lot; the organization in specialized modules presumably bringing forth special abilities does. Scholars in the humanities often stress the importance of language while anthropologists and archaeologists attribute a lot of importance to artefacts, tools in particular.

So many heads so many preferences it seems. Maybe there is not one single decisive factor but the mentioned possibilities are functionally clustered, one enabling the other, most probably in a reciprocal feedback relation.

Maybe the mentioned alternatives better become understood as conditions of possibility creating the right circumstances promoting the coming into being of a factor turning out to become a catalyst by this promoting a particular development of the species.

Question is what might be that factor?

Admittedly I am biased by the research done over many years and the conclusions it forced me to draw. As such it organizes my further thinking in a particular direction raising an impression of prepossession. That is actually not quite correct. It did not begin like that at all. Having finished my doctorates research on the cognitive dimension of human consciousness and for that end comparing human with animal capacities in that field, I got struck by the particular characteristics of earl stone tools. Situated on the

brink of or rather zone between animal into human, they testified of features not occurring in the animal way of negotiating the Umwelt. Taking a giant step, it made clear that the tool showing signs of intrusive adaptation demonstrated a very different approach than the tools used by other apes. They became “objects” detached from the actor no longer incorporated (ref to Kohler). They became means with a statute of their own.

Taken by that perspective it dawned that the introduction of means supporting action, broader negotiation of the Umwelt seemed to be omnipresent in the behaviour of the line of hominin which in the end would become labelled as human while relatively absent in other species and when present absolutely missing the complexity of human used tools.

Hence the reordering of the list in relation to mediation i.e. is mediation involved in the characteristic of objectification mentioned. With this in the background three groups become possible: some characteristics are not mediated at all, others are and for still others it is not clear if mediation is involved.

<i><b>Unmediated</b></i>	<i><b>Mediated</b></i>
Upright posture	speech language
Bipedalism	Questioning where or what-about
Freeing upper limbs/hands	Questioning causes and the sense of...
Hairless	Making hypothesis
Body brain ratio (?)	Making representations
Organization of the brain (?)	Sharing representations
2% difference in the genome	Creating an inner world
Long childhood (?)	Reflect on what is in front of
Long life after fertility (?)	Reflect on oneself/reflexion
	Appreciating mortality
	Time travel
	Inhibition of behaviour
	Postponing rewards
	Ornamentation
	Art forms / esthetics
	Mechanizing behaviour (transport, war, production)
	Clothing (skins, grasses...)
	Mastering fire
	Cook
	Making and using complex tools
	Bringing forth symbols
	Manipulation of symbols
	Use of external memory systems
	Burial of deceased
	Rituals
<i><b>Discussable</b></i>	
Wonder	
Generating love	
Free will	
Vicarious channeling of aggression/sports & in watching sports done by others	
Extended empathy (non species, abstract figures...)	
Moral	
Law/justice	
Esthetics	
Complex social organization	

Follow that line of thinking I start with some considerations about each group and see where it all leads to.

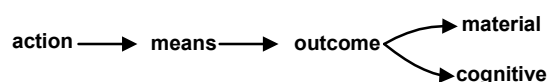
### **Unmediated**

An upright posture, bipedalism, freeing of the hands can without difficulty get accepted as direct manifestations. The hairlessness has to be nuanced. The human species is not hairless but the character of

the hair is different. While animal fur is thick, human hair is quite thin. The genome is also prone for discussion. Mutation is without question unmediated; it is in the case of selection not always quite clear. Selective pressure can be a factor and in that the influence of cultural means can play a role. This was actually a burning topic in the 19<sup>th</sup> century. On the one hand there was the breeding of domesticated animals and on the other the protection of the severely ill and disabled was said to weaken the human species.<sup>265</sup> The body brain ration and the organization of the brain are also prone for discussion. What are the chances that both are brought forth by mutation or could otherwise practice be a defining factor in the increase of the volume of the brain and exerting pressure on the specialisation of particular regions? Anatomical factors could play a role in the prolonged duration of the childhood. Compared to many animal species the birth of a human child is extremely premature. But there is also a cultural dimension. Human children have to acquire a lot of skills involving complex forms of mediation. In respect to long life after fertility, it comes as direct but it would be unthinkable without a lifestyle characterized by culture and thus mediation.

### **Mediated**

Mediation can be represented in with simple scheme:



An action making use of a means is finding execution and results in an outcome which on closer inspection can take a material or a cognitive form. In the mainstream appreciation cognitive is more than often replaced by mental as qualification. But as this poses a conceptual problem, reference to cognition is preferred here.

Applying the suggested distinction results for material outcome into:

### **Material**

speech language (?)

Ornamentation

Art forms / esthetics

Mechanizing behaviour (transport, war, production

Clothing (skins, grasses...)

Mastering fire

Cook

Making and using complex tools

Bringing forth symbols

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<sup>265</sup> Based on experience in breeding results in animals eugenetics got often inspired by a real concern on deterioration of the species and not always on latent racism. (Gie van den Berghe, 2008. *De mens voorbij*. Meulenhoff/Manteau)

Manipulation of symbols  
Use of external memory systems  
Burial of deceased

Speech and language are questioned. The ability to bring forth both is often considered to be cognitive while their manifestation takes a material form (phonemes and graphemes). The latter can take one of the following tracks. Or there is a cognitive ability bringing forth both, or the manifestations are actually instruments embedded in an operational skill. To make the difference more clear, the latter is to be understood somewhat similar that cooking is following from the skill of mastering fire.

This selection leaves the other items as being part of the cognitive sphere:

### *Cognitive*

speech language (?)  
Questioning where or what-about  
Questioning causes and the sense of...  
Making hypothesis  
Making representations  
Sharing representations  
Creating an inner world  
Reflect on what is in front of  
Reflect on oneself/reflexion  
Appreciating mortality  
Time travel  
Inhibition of behaviour  
Postponing rewards  
Art forms / esthetics

**Coming back on language** in regard to the character there are different options. To name two – enough to clarify the problem and the option preferred here:

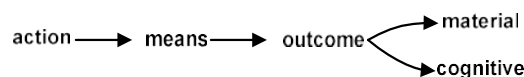
- a) It is a capacity following from a genetic basis. FOXP2 for instance has been suggested to be necessary for language; on the other hand it plays also a role in birdsong and echolocation in bats. The question then arises to what degree does it contribute to language in which symbols are recruited and declarations are getting formulated?
- b) Language came into being under the pressure of a growing community, a point of view supported by for instance the anthropologist Holloway.

In both cases the concrete origination of language remains shrouded in mystery. It seems in an unexplainable way to emerge from a vague instance. Referring to FOXP2 may well fit a scientifically

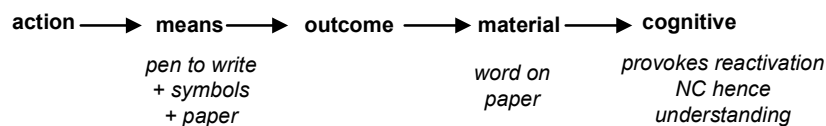
sounding frame of reference; in the end it fails to offer more clarification than the Cartesian view suggesting that language is a gift from the divine instance. It leaves no other possibility than accepting it. The social pressure as the second option seems to offer a defensible argument but it leaves unclear how language as ability or skill could have been coming into being. It offers a reason but does not tell how it is realized. I am also having difficulty with the teleological perspective: language *had* to come into being in the same sense as the wheel had to be invented.

I am in favour of the option offered in The Forgotten Transition and in later contributions. It expresses that what got conceptualized as language did not have to but actually followed from the execution of a skilful manipulation of means provoking a series of displacements in the experience. In short, in that interpretation mediation is at the core of “language”.<sup>266</sup>

But concerning some characteristics under the heading “cognitive”, it will be clear that language is a necessary condition. How could one question without it? How could hypothesis been build without the use of language? This clarifies that at least in these cases the scheme on mediation should be reorganized from



Into



(NC > consolidated or Hebbian neural configuration)

The scheme is extremely simple but the point is to make clear that without the material implements the whole would not even be possible.

This reorganization actually changes the perspective in a fundamental way allowing other characteristics the fit the same structure as straight forward effects.

As mentioned, questioning would not be possible without language. An animal can experience an open need but it – metaphorically – does not sit down and ponder how to procure food for the coming meal. Let alone that it could appreciate mortality.

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<sup>266</sup> To my amazement Chomsky at the age of 93 in 2021 in a talk on The World Science Festival (Youtube) still maintained the idea that language was actually the expression of thought, the Cartesian approach I expected he had left behind for quite some time now, alas. This is the inverse of what I have suggested myself i.e. that verbal thought is brought into existence by manipulation of 2nd order stimuli, an action thus.



But take questioning the locus of hidden food as a simpler less deep example. Animals may possess instinctive capacities supporting to end that task successfully; they also probably will fall back on cues fitting situated cognition but they will not think about it, consider the problem. How could this be accomplished without language? From an operational point of view, this comes down to **the use of words**, leaving aside here that they become ordered in particular way to complex series. But a word is a concept on the one hand with a material form on the other. The concept is what is experienced in everyday and common use of language. When speaking it does it escapes the attention that graphemes or phonemes are handled. People communicating experience exchanging understandings, i.e. concepts. Locke the 17<sup>th</sup> century philosopher coined it telementation. When explicitly asked, people are aware that graphemes and phonemes are in play but in the fire of speech act these seem to be subordinate, almost negligible.

This brings us to another distinction.

For simplicity I will stick to use of words as a proto-example.

As mentioned in the previous paragraph “means”, words in this case, seem to be auxiliary in a loftier goal. Man seems to have the drive – as that goal – to communicate, to tell about, to compose narratives. That is fundamental and means are just useful implements ready at hand to do so. That is actually the prevailing view. Language is indeed recognized as the eminent and extraordinary capacity but it serves a higher aim.

The other option is that language, understood as the skill in which phonemes and graphemes are becoming manipulated, is precisely the possibility opening the gateway into new opportunities. The manipulation of implements, physical in kind, lies at the ground to new applications; it is causal to it; moreover as it will turn out, it is a general catalyst in the functioning of characteristics considered to be typical human.

In relation to means it allows concluding that for language to be effective, to be at all possible, means in function as 2<sup>nd</sup> order stimuli are indispensable, they are the linchpin.

With this option in mind, graphemes, phonemes or formalised gestures will be taken as the means playing a central role. This view is unproblematic in the case of speech and language, questioning and formulating hypothesis.

But what about **representations** seemingly more airy in nature escaping grasp, representations as the scenes constituting an inner world?

It all depends on how representation is understood. In the Cartesian sense it has the nature of a picture like projection observed by a vague instance characterized by an inner eye. It would lead too far of to go into the historical origin of that kind of interpretation which in the end to a large degree is not more than a metaphor. The interpretation offered by the neurologist Edelman offers a more plausible appeal. *Re-present-ion* so he writes in “Bright air, brilliant fire, on the matter of mind” (1992) is making present anew. It comes down to the revival of some Hebbian configuration already present in the neural tissue and by

this raising an experience. The neural substrate is the reason why in the previous sentence a metaphor *to a large degree* was mentioned.

This type of representation is not extraordinary. Animals have it all the time. A one year old cat perceiving a mouse does not start from zero. Apart from genetic predestination, it learned from the mother and later by experience thus forming a consolidated neural configuration allowing to recognize mice and to initiate the appropriate motor programs.

The difference with humans is that for the cat the process is getting initiated by an event that happens to the animal. The experience and behaviour of the cat is heteronomous determined which is also the case for the human. But and that 'but' should be written in capitals, the human making use of means is also able to initiate that condition himself. Looking at an opened lemon, perceiving the juice activates a meaningful condition. But hearing or reading the word "lemon" – both forms being manipulable stimuli - will in principle do the same. In principal because that experience will probably be more moderate in intensity and in quality.

As such the use of means will bring forth representations in the experience. It will bring particular conditions to life.

The appropriate means absent, no experience of that kind will be following. The triviality of that fact is such that it is mind blowing that it comes never mentioned as a definite underpinning proof of the function of words as means; the focus is obsessively guided in the direction of some mysterious causal instance in the brain, a language faculty. While a simple act as keeping the lips together will prevent cueing a meaningful content in the surrounding public.

This emphasizes that the tool embedded in a manipulation, signifies as the crucial factor.

However focussing on the function of a particular type of instrument or tool, it brings yet another characteristic to light. Because a tool in itself whatever the manipulation will not bring a representation to life. Picking up a nodule found by accident will have no meaning. Picking up a nodule from the kitchen floor who came through the window will have some context laden meaning. This mechanism known as association is the essential ingredient providing the means manipulated with a secondary meaning. The meaning constituted by stipulation as in a dictionary is only a more complex or sophisticated application of that same principle.

This is precisely the way a means embedded in a manipulation provokes the representation as pointed out by Edelman. The instrument to which a secondary meaning is adhered, functions as a substitute for the first line or the original stimulus. Vygotsky coins it strikingly as a "second order stimulus". Stimuli of this type provoke reactivation of the neural configurations consolidated by earlier first line events and by this bring a new experience to life. This constitutes what has been interpreted as an inner world.

From a social point of view it will be clear that individuals belonging to the same cultural context will share the same type of associations with some individual nuance but still mainly the same type. From this follows that the exchanges of the mentioned second order stimuli will provoke similar experiences. The critique that this mechanism is all too simple, hence reality is far more complex, does not come unexpected. Consider however what a simple on-off condition as the cornerstone of Boolean algebra has been able to accomplish in the domain of digitalisation. Oddly enough in physical sciences simplicity is

seen as elegant and beautiful while in human sciences the rule of complexity seems taking the upper hand. With billions of neurons working in the brain, the perspective on some understanding seems far off. I attribute more value to the theory of natural selection in which the phenotype has to prove to be capable of coping with the burdens of the changing circumstances in order to survive.<sup>267</sup> It will be clear that I am not taking the path of scrutinizing the workings of the smallest of constituent active in the deep of the brain. That would only result in a sphere of dizziness.

**So far** I have tried to shed some light on a few items under the heading of characteristics in which mediation plays a central role. That was language and speech, the ability to question and to form hypothesis, the provoke experiences commonly called representations these providing the building blocks of an overarching experience in turn called having an inner world, at least being part of that.

Concluding, from all the sources consulted in a substantial number of cases means seemed to play a role of importance in bringing forth cognitive effects.

Other characteristics such as reflection, reflexion, and inhibition of behaviour, postponing reward and appreciating mortality shared a core as a necessity. Neither could be thought of without some instance objectified as there would otherwise not be something inviting to be reflected upon.

Isn't that the case then for anything perceived? Not necessarily. An animal perceiving a potential mate or an enemy is entangled in the relationship. In that case the dynamic of relation regulation plays. Humans being animals after all also share that type of experience as in a sudden confrontation with a danger, but more than often the instance perceived by a human is getting **objectified**. A tree is observed as an object situated over there. It is getting classified in verbal terms: a tree is recognized, often as a particular species with added characteristics. Precisely that condition allows reflection, consideration, informing about. It is not purely something over there, information can be added taking the form of a declaration. Reflexion (with an x) is the particular case in which one reflects (with a c) on features of oneself, with the support of means making these into objects allowing to be described, considered, or evaluated against esthetical, moral or technical criteria. The same idea goes for appreciation of mortality. The knowledge that life is finite, knowledge brought into being by the manipulation of 2<sup>nd</sup> order stimuli – an object and body of knowledge further manipulated as if itself had become an object, is getting considered. It should be stressed that in terms of operations there is no difference between reflection and reflexion. Only the appreciation that it in the latter case it the self becoming reflected upon provides a special appreciation. In respect to inhibition of behaviour or postponing reward, the same mechanism is at work. The behaviour or the reward is getting objectified and considered, involving a process of evaluation resulting in a conclusion on which behaviour to be executed.

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<sup>267</sup> The sentence expresses what is meant here and as such does its job. But this in a way presents natural selection wrongly. Natural selection does not favour particular characteristics. It is rather the other way around. Characteristics not answering the burdens of existence are getting pruned away. And even that formulation is not correct. These characteristics in the end simply don't survive, they do not become hold back. There is no favouring or pruning in play.

This is extremely clear in the case of playing as in a game of chance or a sport. Apart of the tension provoked by the challenge, the reward by winning the game is getting objectified and projected as a goal. But this could not be accomplished without a material implement of some sort provoking the meaning, the neural configuration or the semantic field, to life. The animal is driven by hunger, the human by the prospect – which could not exist without objectification projected – of the reward in the future.

The particularity here is that in all these different cases it could not get organised without an object as mentioned in *The Forgotten Transition* and chapter 16 in the subsequent Supplement. In a nutshell, for animals and humans as animals perception is organized according to the rules of Gestalt psychology. What is relevant in respect to the primary motivation is taking foreground, becoming figure. What is less or not relevant gradually becomes background and even disappears. The main hypothesis formulated in *The Forgotten Transition* is that the findings of early stone tools suggest a reorganization of that configuration in relation to the adoption directed manipulation of the tool at hand. The formal characteristics involved in this perceptual-motor approach give rise to a conceptual reconfiguration with a stable character, eventually called “**object**”. The dynamic organisation remains subject to Gestalt oriented psychology but the figure is getting reorganized.

Underpinned by the dynamic of a continued manipulation of means, the perception of the environment becomes redefined as a set of objects in the perspective of manipulation.

Because of the importance of objectification the following should be made saillant:

The characteristics of early stone tools suggest a particular perceptual and motor approach on relevant elements in the environment holding a definite reorganization of stimuli. This functions as a guiding filter transforming the environment into a set of manipulable entities.<sup>268</sup>

Returning to the list it further shows **characteristics which would not be possible without a stance of objectification** implying consideration, taking a view ‘on’ underpinning an appreciation of distance.

Clothing and without doubt ornamentation implies a consideration upon, a reflection on the own body, on the self (the latter term cautiously used). Both, clothing and ornaments are means to an end, functional in the first case; distinguish oneself from others for the second.

Making and using tools involve distinguishing an object as an end at the same time a means in order to realize some other end. Apart of one particular bird in Australia, there is not one animal known not in fear of fire. Man in the end mastered it. He could not have done that without considering it an object which could be handled. It became an instrument in holding warm, keeping animals on a distance and cooking food. Man also made use of objects – he had to recognize elements as objects in the first place – as elements to refer to particular meanings. At first probably quite simple as in marking a path, later by making stylized symbols in it self meaningless, acquiring meaning on the basis of association. It allowed building external memory systems, keeping and transferring information overarching time and space.

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<sup>268</sup> For an elaboration reference to J. F.R. Gilbert chapter 3. The Object in Developmental Psychology, in *The 5th Ape*.

### Discussable characteristics

Let us start with an experience of wonder like in being impressed by a tropical sunset, or caught by an intricate technical construction or as in being wondered about being alive at all. But it should be clear that it is not the aim in this context to clarify wonder in all its aspects. This would confront by what is considered to be the hard problem of consciousness, in my opinion a cultural atavism.<sup>269</sup> Here there is only one question at stake: could wonder be without an objectification as a means allowing to be wondered about? Could an animal be thought of wondering the warm colours of a sunset? Or does the condition of light only has meaning by triggering a circadian cycle firing up proper behaviour such as looking for a nesting place or starting to feed?

A condition such as wonder requires consciousness, being conscious of what shows itself. An animal would not question the nature of red as Mary in Frank Jackson's thought experiment did. In the best of cases an animal would experience a particular condition as a trigger. Wonder requires some object to be considered, the objectified experience being the means firing up a condition of wonder.

Generating love is different to animal attraction. That plays a role of importance, the human is an animal after all but love is a feeling built on certain values, economic as in the Middle Ages or courtly in later period, romantic still closer on the timescale. It can also be raised by a religious frame of stories and accompanying values. All this requires different objectifications allowing to be considered.

Free will is yet another critical subject. But as a matter of fact in the actual context it is not all that difficult. Could free will be thought of without the opportunity to choose? And does making a choice not presuppose different items to choose from, different objects as means in the act of making a choice? Here too object and means seem to be indispensable.

Extended empathy in relation to other species even abstract as in animated cartoons is the following item to comment on. Again it is not the empathy as such which is questioned but the fact that this reach of empathy could not be thought of without a depiction, an object thus which could be considered against a frame of values. Humans slaughter animals by the millions but melt in front of a picture of Bambi or a dolphin. It proves the force of a particular framing. It could be counter-argued that animals too show signs of empathy. Some do indeed but it is on all of the occurring cases a rare phenomenon in most cases confined to next of kin. It can be observed in chimps and elephants, but mother wildebeest seems to forget quickly the calf taken by the lion. And then again to what degree does parentally instinct play a role? Human forms of empathy have an extra layer in which objectification again is of central importance.

There is still moral, justice and norms underpinning aesthetics. Here the same argument can be used as in the case of appreciating mortality and the act of questioning. Some "thing" objectified, an object thus has

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<sup>269</sup> In a nutshell, withholding only what could be measured, Galileo orphaned all of the dynamics which got acknowledged as natural belonging to life in the (previous) Aristotelian approach. In the end this got appended to the new 17th century appreciation of consciousness, no longer focussing on a type of knowledge but on a content characterized by being exclusively private.

to be considered. It is at the same time the means allowing consideration. It is as the tool being worked on becoming judged against a criterion. Agreed the criterion relevant here is not the handedness and the immediate usability characteristics more in the realm of the motor based on values as objectified marks in a criterion.

Vicarious channelling of for instance aggression is what is left on the list. This is a quite complex situation almost impossible to discuss in a few lines. Let us try to mention some main points. Urbanisation with an increase of inhabitants requires cooperation and tolerance conversely affect damping. This dynamic in itself is accompanied by an increase in ruling and control of behaviour requiring an awareness of desired and undesired behaviour.<sup>270</sup> That requires consideration of behaviour in other words behaviour is getting object of thought and guiding. But affect damping requires channelling tension in a controlled way hence sports activities. Doing sports is one possibility. Being a spectator can provide vicarious excitement akin to empathy. All this would not be possible without moods and desires being objectified allowing consideration and guiding. Without this the condition of undergoing dominance exerted by others would result in a direct confrontation. Agreed there is something like ape-politics but it is direct, the suppression had to be guarded and maintained constantly. There is no ball game allowing diverting a surplus of tension. Here too as in imposing moral and justice rules there has in the first place something which can be ruled: behaviour considered implying that it had to be objectified and prone to discussion in the first place.

What became clear is that in all these characteristics occurs a common denominator. Whatever mentioned in the list it would not be possible without a well defined entity clearly distinguishable against the background prone some mode of manipulation.

## Notes - discussion

### **“Object” is not a natural kind but a construction**

However not relevant for this discussion I feel urged to add that the said entity, the object, **is not a given** in advance but in the development obtained form, configuration or concept, through the abilities opened by manipulation.<sup>271</sup> It has to be specified that it is not a given form prone to manipulation; it came into being by and through manipulation. This point of view is mostly reciprocated by a rather rhetoric remark “do animals not perceive objects then?” As explained in The Forgotten Transition research in different fields suggest that phenomenon experienced in the animal perception indicates the character of a figure as described by Gestalt psychology which once was the case for hominin too. The hypothesis sounded that from manual practice followed a reorganization of the perceptive cognitive setting into a configuration responding to the abilities of the hands. Hence what would be called object from the Latin ob-jacere (that

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<sup>270</sup> This process has been studied and strikingly described by historians such as Norbert Elias and Robert Muchembled.

<sup>271</sup> Reference to note 4

what is thrown in the way, throwing an act performed with the hands) is embedded in manipulative action. This stresses that objects are not natural kinds. Are bricks not objects then? Of course they are but consider the sequence. An enhanced manipulation brings forth a reorganized perceptive configuration conceptualised as “object”; once in place it functions as the model guiding the subsequent making of utensils classified as objects.

### **From concrete and particular tool to a general concept**

From a teleological point of view the question might be raised why the hominin did focus on the form which much later would become called an object? Taken into account that the concept did not exist at that point in time, he did not **aim** an object but a **tool** supporting an action, in other words a means. He did not make an object but percussion implement allowing to break the bolster of nuts or the shell of a mollusc. The tool or means is fully embedded in the sphere of action while the **object is a concept**, a pattern in perceptive cognitive organization originating gradually over a long span of time. In fact means or tool or instrument on the one hand and object on the other belong to a different category. The first embedded in action while the second is rather cognitive in kind. In the actual context “object” has to be understood as an overarching name for all what is prone to manipulation.

This comes down to the fact that what is getting referred to by the denomination “object” is not to be understood as neutral, a purely perceptive cognitive configuration but as something instrumental, tool-like. Thinking about objects they are easily taken as a category of unspecified, neutral things existing somewhere in the universe detached from everything else. But they should be understood intimately tied to manipulation, the former not even able to exist without the latter.

In that sense each object calls for the manipulation in which it came into being, at least in which it is functional.

It goes without saying that this approach is not needed in common parlance. But in the effort to understand the human condition it should.

### **From action to cognition**

The observation about the tight relation of object and manipulation goes with two more views which should get redirected.

Scrutinizing the list under the heading “mediated” it strikes that a lot of the features are what gets commonly accepted as “**mental**” abilities, however I would prefer “cognitive”. This kind of appreciation lifts these into an atmosphere of thin air, somewhat ethereal, escaping the grasp. Take language for instance, in common understanding it is taken more for a cognitive ability than for motor based skill. However the latter is exactly where the stress should be, on the motor like dimension bringing forth an effect bearing the character of what is getting understood as cognitive (mental). However **the act** is the necessary **basis**. Without it there is no effect following irrespective what nature would have been attributed to it. Cutting corners, the stress is on the action.

### **Stress on action in the public realm**

Another observation is about the mental abilities, as present in the list, are more than often attributed to the workings of the smallest of constituent in the deep of the organism, in this case the neural workings. The function of the neural workings is subject to discussion. Is it causal in the sense that motor activities are finding initiation in the neural tissue? Or is the organism in the interaction with occurring circumstances the initiator in which case the neural component is coordinating and supporting global behaviour? For the first case there is already a historical identifiable mention in the Assayer published by Galileo in stressing the importance of the workings of invisible elements. This got complemented later by the medical doctor Willis in shifting the centre of attention from the heart in the direction of the brain. This interpretation shifts all attention into the direction of the brain, to this day a dominant view. On the other hand within the framework provided by the theory of evolution by natural selection, it is the acting phenotype which has to prove success in the endeavour to survive. For the first option the path of origin of the historical version can be drawn as I offered in other contributions (such as Script). It comes as a behaviour guiding interpretation, but an historical interpretation nonetheless. Natural selection as the second however is not only generally accepted and illustrations are abundant but the suggestion is that plausible that it already is quite convincing on itself.

This brings us to the following picture. Instead of subscribing the idea of an inner instance consisting of busy small constituents which after careful evaluation provoke the needed behaviour, the depiction is turned from inside to outside propagating the importance of behaviour in direct contact with changing circumstances, an **act which is observable in the public arena**.

Or joining both suggestions, an object should be understood embedded in the public scene of action in which it receives form and meaning.

### **The actual human cultural society**

So far the role of the object got stressed, the implement supporting action in the frame of a consideration of what might be the core factor in the human uniqueness. But let us change the perspective and instead of taking a stance of looking upon, look around and observe the presence and influence of implements in daily life as the yardstick to measure importance, considered the abundance even a necessity.

It seems almost impossible to point out an occasion in which means would be absent. Walking upright is but the whole of the action is carried by an artificial protection known as shoes moreover walking on some kind of hardening, the pavement, forced to follow a wall of brick facades and so on. Even looking for shelter in a house implies opening a door which is not a just so thing but functionally safeguarding what is inside against eventual threats of different kinds, thieves and weather, or veiling private behaviour for the public eye. It is a means to these ends. Take further the implements involved in cooking and feeding; they are more numerous than ever thought about. There are cupboards as means to store other means, cloths and dishes, books being means to retain memories of all sorts or distract by telling stories. As it turns out humans are surrounded, immersed by tools, means, and devices enabling to



organize daily life. The actual situation is thus that they could no longer do without them. It is not even bold to state that they would not survive long without their support.

Even the ephemeral experience of wonder or excitement is mediated by the naming of it. It precisely brings the experience of wonder to life; an animal does not wonder. It can be surprised by a sudden event but not fall in awe for a sunset. The naming as sunset calls all the connotations present in the semantic field, guiding the experience.

The naming provoking the experience of wonder has been given as one example, quite extraordinary in nature. But naming is actually part of the general practice of speaking aloud and silently, the latter in verbalizing or should it not better be called 'bringing forth' that type of thought. As soon as waking up, it is present. We see clouds accompanied by or rather through the filter of verbal conceptualisation. We never perceive clouds directly devoid of any verbalization. We meet people not only in general but also individual identified as "Louis, my brother" or "Els, the shopkeeper". We do not perceive the raw figures in a direct and brute regulatory relation but always named with and dressed in verbalizations. As explained earlier we appear to take these references and concepts as consisting of thin air, but they are actually and for everything else physical units. Sometimes it takes the form of sound i.e. vibrating air, sometimes that of visual sign i.e. reflections and shades of light, sometimes subtle inner motor movements as in inner speech (demonstrated by Sokolov). They are in fact implements; tools embedded in the mode the human deals with the environment.

All this makes the question in the introduction "what is it that makes humans unique?" sound rather weird. If fish could ponder it would come like them asking what water might be. Humans are so much immersed in an unbelievable amount of implements that these escape the observation. Some textbooks in ethology boast the use of tools by animals. Indeed they do. But it comes as comparing the ability to count to five with another creature applying matrix algebra with ease. However the use of tools by chimps and crows has to be recognized there is simply no comparison.

Would it be all too bold to conclude that this abundance of implements and artefacts, in many cases complex to even intricate is the feature allowing to attribute the predicate "unique" to the human species?

But artefacts, implements, objects should as stressed earlier not be considered as static elements positioned over there, in front of, inviting to be considered upon. The concept itself came into being through a targeted action. Divorced from it, it has no meaning. What for instance is the meaning of a bicycle if there is no cycling involved... a piece of metal or carbon. A Martian could not attribute meaning to it in absence of a person making the proper movements.

Hence the uniqueness is not just in the objects, the means as static elements but in the tools as means embedded in some action. This is the thesis I want to offer: mediated action is not only the form the human takes but it is precisely that providing him with a unique characteristic.

It is far more than something added to the human organism. It has made the hominin into the human. Divorced of this dimension reduces him to a helpless creature no longer able to satisfy survival as the ultimate end of any organism.

Mediated action is at the same time the key into becoming human and the catalyst in opening pathways into abilities - preferably called skills - viewed as typical human such as language expressing declaration, consideration, projecting models, time travel etc.

### On consciousness

As a last critical example, take the following expression “it happened unconscious”. It implies that being **conscious** is considered to be a criterion, and not a just so criterion but one of decisive nature. Because unconscious as condition escapes what it is to be human. But how is that feature to be understood?

A broad significance can be distinguished from a strict or narrow meaning. I will limit myself to the narrow sense. The broad one is actually, in my opinion, contaminated with a particular historical meaning. Briefly explained, the term goes back to the Latin *con-scire* or what in a community is known. Later the meaning got somewhat narrowed to “knowledge shared not with all in the community but with some”. In a later stage again, the domain got even limited more to one person, the bearer of the knowledge, the so called “conscious sibi”. In the middle ages the meaning got specified in two different flavours: secret knowledge not intended for others and knowledge which by nature is not accessible to others. The latter got reckoned to being conscious while the former inclined in the direction of what would become called conscience and according to that shared or kept for oneself.

The particular character shared by the different stages mentioned is its dynamic character, it is something – sharing knowledge - done or decided on. But from the 19<sup>th</sup> century on, that changed. Being conscious became more and more understood as an intransitive instance suggesting there was some property called consciousness present in the human. However not relevant for the actual observation but nonetheless quite interesting, in a semantic tension the acceptance of consciousness as an intransitive instance facilitated the introduction of an instance of unconsciousness also bearing the character of an intransitive instance.<sup>272</sup>

The item of relevance is that whatever the stage it all has to do with knowledge.

However for the actual interpretation of the term, another factor with historical origin started to play a role of importance. The 16<sup>th</sup> century with Galileo as exponent for a *Zeitgeist* a change in the thinking took place and got characterized by a shift from an interpretation in which qualities and dynamics stood central, more Aristotelian, into the direction of quantification. As Galileo proclaimed “to measure what is measurable and making measurable what is not yet”. The effect of this influence gradually gaining importance and becoming dominant in the end was the separation of the dynamic-qualitative aspect of life. This shifted in the direction of the instance of consciousness gradually becoming part of it. This move underpins what in present time is called the explanatory gap and the hard problem, i.e. resisting explanation by use of scientific approaches.

I consider the latter move as a contamination of the original meaning diverting of the previous one. It obscures the study of the core of being conscious taken as an act and the effects of that act. This elucidation is aimed at clarifying the sense in which the term “consciousness” is to be taken in the actual context.

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<sup>272</sup> For a discussion Humphrey, N. different publications such as *A history of the mind*; 1999. Copernicus.

However taken in its original meaning consciousness is about knowledge. The crucial spark lies in “about”. Consciousness is *about* knowledge. It something possessed. Being conscious is always a being conscious of. Even in an assumed meditative state, being said to be conscious pure and simple, even that is the condition of which one is conscious of. It baffles when some people say to aim at the state of mind characterized by singularity, oneness. Baffled because the whole trajectory supposed to introduce that condition is paved by means instructing and guiding. Moreover the condition itself is the condition one is in. Without being conscious of it, it would be nothing. It would defy being human, a condition which once acquired is irreversible.<sup>273</sup>

Leaving this digression aside, *aboutness* expresses the structure. There is a human being in a condition *about* something. *Aboutness* expresses the relation of a human onto something in front, a relation of consideration. This type of relation can only fully get appreciated in difference to the direct entanglement animals are engaged in. In aboutness there is an experience of distance – *cette distance nulle* as Sartre coined it – in relation to something distinguishable *over there*. This type of relation would not be possible without that what is underpinning what is distinguishable over there, the pattern discerning a (relevant) form out of the chaotic influx the bodily sensitivities, the senses, are able to capture. In this move the object as phenomenon mentioned earlier appears. There is yet a second characteristic present. Conscious is knowledge about something. But knowledge in the case of the human is knowledge by association i.e. there are physical elements in play, sounds or visual signs, as carriers tied to the meaningful payload. Manipulation of these provokes meaning, composes narratives. The knowledge “about” is declarative.

Both, objectification and declaration play a substantial if not essential role in the instantiating of and provoking the effect recognized as consciousness. Again it comes down to mediated action, action in which means in the role of supporting and the function of second order stimulus is impossible to ignore. On the contrary it is exactly that opening this skill leading to that apparently “mental”, rather cognitive effect.

The bottom line is that even in relation to consciousness, a characteristic absent in the list but commonly considered to be typical human, objectification and mediated manipulation play the role of cornerstone, if not the first stone.

As a final example we will turn to a point of view supported by Tooby, anthropologist and Cosmides, evolutionary psychologist. They point out that there are three particulars to the human species: language, the cooperation with people not belonging to the personal circle and they demonstrate a high level of know how which they share amongst one another. The authors add that these factors facilitate and strengthen the relative effectiveness in a reciprocal way. The question is obvious: how could that be realized in the absence of skilful mediated manipulation in which in turn a clear demarcated “object” sits at the core of the operation? If that is sufficient is another question but it anyway provides the necessary stepping stone into further development.

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<sup>273</sup> For an elaboration on irreversibility, Gilbert, J. 2018. *The Forgotten Transition*. Part I.1.3.

## **Concluding**

Taking all reasons and arguments offered in the previous pages into consideration it comes as if the use of means supporting a goal directed action onto an objectified configuration provides the cornerstone to much of what is considered typical human. It may well be said that precisely that practice defines what it is to be human.

## **Postscript**

In the context of considering what level of approach would deserve to be called “natural”, a weird qualification I have to add, it became clear that there is only one level deserving that title, “one major event” offering the steppingstone into becoming human. That is not level of genetics mutation, or happenings on a cosmological scale, neither the quantum dynamic fluctuations of elementary particles. The decisive turning took place on the level of the living organism coping with changes in its immediate context or Umwelt. If there is a reality worth to be called that way then it took place on that particular level, constituted by these particular conditions. But the point to be stressed is that the appreciation of a Gestalt figure in the configuration of what we now call “object” is the crucial factor, the necessary stepping stone without which that particular level would never seen the light of day.

But again, the word reality itself should be expelled to Siberia unless used in its proper meaning as referring to the Latin “res”, referring to some item at hand or to be discussed but in no way as the ultimate guise of existence.

As a matter of fact the difficulty in shedding light on the subject of anthropogenesis finds its origin in the fact that objectification is taken to be a natural case hence any research and theorizing only starts from on a much later level leaving objectification far behind.

# On the infinite possibilities of man

## Open end as suggestion

The idea of an open end system has been suggested by the biologist Ludwig Bertalanffy. For organisms he rejected the representation of a system fully determined by inner causes as in thermodynamics. All too simple explained he considered that inner factors defining an organism interacted with elements in the environment. Gregory Bateson the anthropologist showed a similar approach.

But the idea of an endless open character central in the actual discussion is best presented in linguistics, more particular the version put forward by Chomsky. As a misapprehension in play it is important to elaborate somewhat on this issue.

The idea of an open end system and generativity as the ability to produce an infinite stream of different sentences is often suggested in one and the same breath. This begs the question what Chomsky actually meant by generative.

“In the late 1950’s Chomsky collaborated with the American psychologist Miller and the French mathematician to work out some mathematical properties of algorithmic production systems.” (Seuren, 1998) Generative grammar thus understood is a finite set of rules allowing to generate exactly those sentences that are grammatical in a given language. As I understand, by the fact that it is defined by a finite set of rules it is a closed system, it cannot be anything else than a closed system however the number of sentences produced can *seemingly* be infinite.

A few things come to mind. First, the system is determined and by this - as said - closed. Secondly Chomsky emphasized that he never intended to specify mental processes by which people generate sentences; i.e. mental processes leading into an endless openness. Thirdly, Charles Hockett in an article in the Scientific American (1960) listed what he called design features of language which included productivity. That became defined as the ability to bring forth an unlimited amount of new utterances all the time.

Generativity as the characteristic of a strictly formal system and by specialists in that field still taken in that narrow context, slowly shifted into the common rather vague understanding suggesting a mode of creating endless variations. This makes clear that it concerns a misapprehension living a life of its own.

Let us take a sideway trying to shed light on how the qualification open and closed could make sense.

In *The Forgotten Transition* (2018) I have approached language not as a capacity sprouting from brain activity but as a skill, in particular of the manipulation of objects functioning as second order stimuli by this provoking displacement in time and space in the experience. As such language comes down to be a skill based on a set of procedures in principal on equal footing with procedures in general.

Take acquiring the skill of swimming. It all starts with not being able to but by exercise gradually becoming proficient in it. Of relevance for the actual discussion is that the proficiency developed is effective within the boundaries of that particular skill; it is restricted to that domain. No one will ever take

into consideration that learning to swim will imply the ability to ride a bicycle. How comprehensive the exploration of that domain might be, it is in the end a closed system. If the practice of language can indeed be considered a skill, then the system Chomsky refers to governed by a set of rules is also a closed despite the fact that it gives rise to an infinite stream of grammatically correct sentences.

But whatever the approach, Chomsky's or the appreciation of language as a skill, the fact that both start with a finite set of rules or a finite set of motor interventions, implies that the resulting set – however vast it may come to be – also has to be closed

Humans foster however the feeling or the appreciation that being involved in the practice of language, the possibilities to produce different sentences again and again is endless, in other words the set is open in absolute terms. As to that conviction the naive realist appreciation, that the world lying ahead is transparent at least in principle. The resulting picture represents the way the world lived in is generally appreciated even in the case of scholars when out of their zone of expertise.

People in general seem to be unable to experience the real effect of that condition, stronger still the fact that it is actually a closed system.

It is probably because the awareness itself sprouts from or better still, is a manifestation of that very activity. May a debatable analogue but it is somewhat like the eye performing the act of seeing – unable to see the seeing itself. Wording or describing as bringing forth awareness, as the instantiation of awareness, should be understood likewise. It circumscribes but is not able to perceive the act of describing in full action – unless that act becomes the object of description, but being object it escapes the action itself again. This does not clarify in a conclusive way that condition of being unable but it offers a hint in a certain direction. Husserl is firm on this. He explains that the world appears first of all as an element in consciousness. "First" not only in the meaning of a moment in time, but particularly as an instance "before anything else". Take pain. By a human it is not experienced exclusively in raw form. It is always enrobed in an expression of consciousness of that pain. The means used to bring forth expression determine what can be introduced in that scene built up by a set of expressions. As Wittgenstein sententiously formulated: "the limits of my language mean the limits of my world" (Tractatus, 5.6/5.62).

The scene of (our) awareness is brought forth in some way – language in the case of Wittgenstein – and as a product of the active instance it is determined by the practical abilities of that system and as such rightfully considered closed.<sup>274</sup>

However the previous lines already pave the path facilitating the understanding of how "closed" in the actual context should be taken, I will refer to some paragraphs from another contribution to clarify this somewhat further.<sup>275</sup>

### **On the character of being determined**

Implied in the first assumption is yet another about the importance of the characteristics of the body, in short **embodiment**. Reading academic articles as well as listening to the common parlance exposes that

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<sup>274</sup> It will be obvious that the focus is on the finiteness of the set of products by the skill of language and not on the statute of the World as another word for reality.

<sup>275</sup> "Making the world appear", ResearchGate, Academia.edu.

the role of the body as a definite and all determining filter seems to escape the general attention. It makes it look as if the world is fully transparent, the human eye in principle having access to every corner and dimension of the world and of life. This while it is obvious that the instrument determines what can become captured. The body as a bundle of abilities unveils what can be perceived. It opens the windows at the same time defining in the sense of restricting the reach, the dimensions, the qualities rendered. The latter fact is more than often neglected as if transparency is endless and all permeating. The latter is a stance of unquestioned implicit realism made explicit by the Greeks from then on questioned or problematized and becoming the Red Thread through the history of Western thought.

The counter argument that complex tools and highly sophisticated instruments open and widen the perspective in unexpected ways misses the point. These realisations are finding development within the system or the logic of the bodily abilities. They are all extensions within the same dynamic structural definition. The microscope improves the reach of the human eye. It does not shatter that border in the sense that it would get in touch with all what is “out there”.

It can come hard to catch that there is actually not such thing as an “out there”. What we perceive is a finite construction by the senses and the motor abilities. It is possible to stretch the reach but as a construction and nothing but a construction it always will remain finite and obeying the characteristics of the sensitivities. The noumenon referred to by Kant does not point into the direction of something out there. The term means “that what only can be thought”. And indeed we might even conclude that there is something out there but this thought does not escape its nature of only being a conclusion, a thought and nothing but that.

Short, the abilities opened by the body impose at the same time limit in a definite way, even if these abilities are expanded by technical contraptions.

As an anecdote on the character of the noumenon, I once witnessed a panel discussion where Marvin Minsky mentioned the following. The human as the product of evolution is the result of the accumulation of successes but, and then smiled in the prospect of offering a surprise no one yet thought about, went on with “but everyone seems to forget all the mistakes having occurred in the past which did not substantiate in the flesh”. (These were not his exact words but it catches the core of his message) It however seems to escape this eminent scholar that no doubt there will have been more mistakes than successes but that this finding only can be thought of, that it is a product of our thinking. It is a supposition more than probably true but a supposition nonetheless.

### **On the aspect of being a closed set**

The example of swimming already offered an introduction. The novice is acquiring proficiency by exercise allowing to better move through the water. Needless to add, this skill is restricted to that domain. This observation goes for any skill. Being good in billiard or in building is being good in billiard and in building, not flying an airplane, carving wood or preparing a meal.

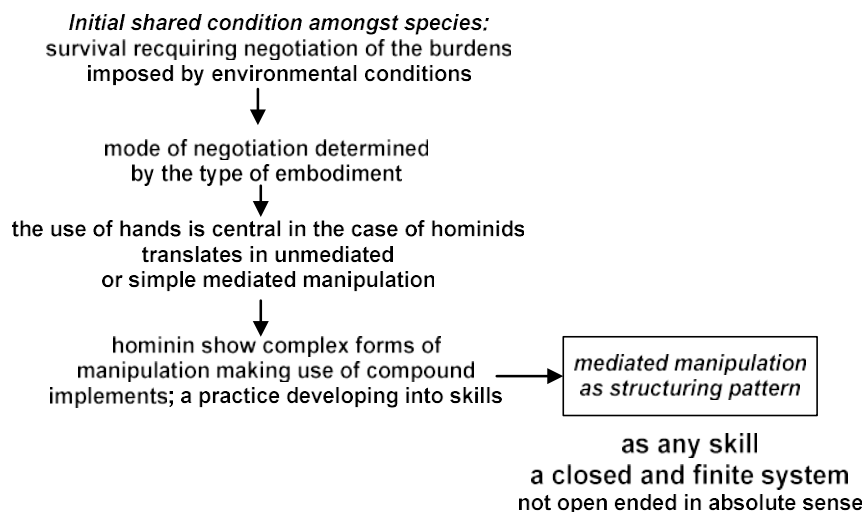
The core of the idea exposed in *The Forgotten Transition* is that in order to understand human capacities there is no need to assume mysterious causes or powers. Accepting the fact that the human in principle is an animal akin to other species whose survival value is determined by adapted behaviour in the public arena provides a sufficient stepping stone. This defines the arena to focus on. With this as background

condition it is a matter of appropriate physical abilities and equally appropriate motor exercise. In other words it is all about skills. But if it is a skill indeed attention for the providing infrastructure and developed dynamics, in short embodiment, becomes important.

The burning question is into the pattern characterizing a skill, any skill for that matter. Another contribution "On human uniqueness" focussed on mediated manipulation as core factor. It is recognizable in any type of skill: hunting, agriculture, building shelter, cattle being domesticated, writing, speech etc. Not one can be thought of without mediated manipulation being present, moreover being the necessary linchpin. Might that not be an indication that it concerns a general scheme? And in that case would a general scheme not show the same characteristics as more specific instances, that is to say determined and finite?

### Schematic

A summarizing scheme facilitates appreciating the different steps



### Concluding

Like a game of chess allows seemingly endless possibilities within the boundaries of the game as a system, in the same sense mediated manipulation allows a seemingly endless range of possibilities and combinations however always within the boundaries of the system.

The appreciation of being open ended in absolute sense is a delusion provoked at least by the innumerability of the said possibilities. There might be some human arrogance being in play too.



### **The volume and reach of the finiteness**

The previous paragraphs explained the finite character of the human skills. Curiosity about the scope of it quite naturally arises.

For the nonhuman and the human animal alike it in first instance is defined by the reach of the senses and of the motor capabilities. It should be stressed that it is a matter of mere experience, not of reflection neither of imaginative expansion. In trying to imagine this condition one should make abstraction of the tendency considering finiteness as a border with potentially something further as in accepting the infinite character of the cosmos at the same time pondering what might be lying beyond. In the condition meant here the end of the range is really the end, all stops at that point. And what is caught in that range collapses with what is getting experienced as the world.

The human adds an extra dimension.

Thanks to mediated manipulation he brings forth displacements in time and space and introduces these in the experience. It needs stressing that the expansion experienced is realised by the manipulation of means functioning as second order stimuli because the character of these means are finite. Recall the skill of bicycle riding. It allows moving around but is finite in the sense that the ability opened is restricted to this application. It does not allow to play chess or to swim, cook etc. The idea of something beyond has to be abandoned completely.

The pattern of supporting manipulation discussed here is more general. It opens a broader domain but as a skill is still a finite set. It allows increasing the experience in a twofold way as an increase in volume and as an increase in the dimension of quality. Being able freely planning future actions or recalling events from the past increases the volume or the scope of the world experienced. Besides it adds to the number of discernable qualities as for instance the microscope allowing to see elements escaping the range of the naked eye.

In short the use of means expands the motor dimension and the implementation of displacement hence imagination expands the world prone to perception. All this is taking place within the confinements of embodiment and the use of action supporting implements.

By analogy, the manipulation of light started by heating a filament and developed into the manipulation of lasers, an enormous increase in variation and range but always within the confinements of what is considered light.

It might be tempting to consider the possibility that eventually the increase will include all what is out there, so that knowledge actually will coincide with the world.

This suggestion is built on the biasing assumption that an objective world out there independent of whatever observing instance exists. This suggestion is a legacy introduced by Plato referring to a realm of ideas as the instantiation of an ultimate true world. Ironically this depiction is itself an instance brought forth by manipulation of the means mentioned.



## On the human condition

This part would not have been possible without the research executed over at least the last two decades. As such it bears more the character of a synopsis than an explanation. The downside is that a degree of foreknowledge of previous publications is recommendable.

There are two sections.

One has “two essays” of which the first demonstrates that the stance taken in relation to the Umwelt appears in each of the subsequent stages of development. The second ponders on the question what actually the stuff of thinking is. The stance or pattern mentioned joined with the stuff of thinking catches strikingly the dynamic making of the human a species quite different from all the other non-human animals. It embodies the human condition.

The second part of the book explains that most of the actual so-called abilities making the difference do not emerge from mysterious sources located somewhere inside but to a large degree are the result of actions taken in the open and in principle observable realm. “In principle” because some like endophasy require special developed equipment.

In short the first part of this publication unveils the specificity providing the critical difference while the second explains how seemingly mysterious effects are brought forth by the execution of on in principle observable operations. Still otherwise approached, the first part focuses on the phylogeny while the second on the ontogeny.



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	Schematic overview
The features	
1. Displacement	
	Specification
	The twofold steppingstone into displacement
	The human condition
	Phylogenetic
	Ontogenesis
	The association
	A step back to the core
	Displacement, characteristics in the experience
	1. Carrier and content
	2. The experience, amalgam of perception and imagination
	3. A virtual world
	4. The complex character of displacement
	A. The transition in the direction of objectification
	B. Displacement in space and in time
	C. A condition considered a form of alienation
	5. Two views on language
	6. The core of displacement
	7. The aspect of complexity
	Recapitulation: in a nutshell, the abilities so far
2. Theory of Mind	
	1. A conclusion with a hidden assumption
	2. The rich possibilities of implicit heuristics
	3. Practice in the public arena
	4. The ballet
3. Consciousness of the self	
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Conclusion	
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### **Preliminary: premises taken**

Not one single explanation appears out of the blue demonstrating points of view as if they were neutral and completely objective. Therefore it is appropriate to start with a brief overview of premises, assumptions, and points of view taken. That is not only a matter of being open but taking note will facilitate further understanding of the line of thought. It will be informative but actually all too brief as each merits a contribution.

Man is but one species amongst many. This insight expressed by Darwin is nowadays without reluctance accepted by the scientific community. Alas it is often only discussed within domains like biology, evolutionary biology in particular and evolutionary psychology.<sup>276</sup> Alas because an important fact seems to be overlooked. The similarity suggested by being a species amongst species, does not occur only on the level of biology but also in the way the environment is getting perceived and accordingly negotiated. In the endeavour trying to understand the development into a human species this should be taken to be the starting point.<sup>277</sup> Assuming that no mysterious interventions took place, the plausible question then is how did the hominine get from there to the condition of the contemporary human?

Whatever the cause of the change in morphology, it has to proof viability in real life situations in the public arena.

Any organism only exists in the locus where he is anchored by the body even if that organism in imagination seems to be elsewhere.

Embodiment and the accompanying dynamic determine the character and the range of the existence experienced. Even when experiencing a displacement in space and time in imagination, it cannot be performed anywhere else than in the location mentioned. Hence a displacement of that type is a construct.

Commonly cognition is getting understood from out the human perspective which actually is a mixture of an animal mode and what might be called a specialized exclusively human way. This top-down approach is at the same time the yardstick to judge the relevant behaviour of all other organisms. But the other way around, cognition actually comes down to heuristics, strategies and procedures in order to cope with the burdens imposed by the environment, in short: to survive. This is the fundamental drive giving content to what in cultural terms, to distinguish from biological ones, will be called cognition. The human mode, taken for granted and as yardstick, is actually a remarkable efficient and efficacious specialisation arisen under the pressure of ecological changes promoting a difference in posture, locomotion, use of hands,

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<sup>276</sup> The scientific pattern focuses on what is measurable, thus material and so biology is much more susceptible to description than cognitive processes.

<sup>277</sup> The condition of on that level has been discussed in *The Forgotten Transition* (2018) and further elaborated in the first chapters of *The 5th Ape* (e-book, available on the Internet Archive + J.F.R Gilbert Ph.D./browse Library. As this publication at this time is not finished versions might differ in the number of chapters.)

exploitation of skills already present etc. This bottom up perspective is the one preferred in this contribution.

The following is not a premise but has a methodological purpose. Concepts are not neutral labels and explanations. More than often they are crystallizations from historical circumstances. Particular historical based meanings deceive into false problems or veil the underlying operations or both.<sup>278</sup> The look on the operational dimension from a direct as possible point of view it is desirable to bracket the historical biased meaning.

In summary: Being a species amongst species all share the same basic conditions and orientation which is defined, at the same time constrained by the abilities of the body. It can only be executed on the locus of existence, which also is the case for the experience of a displacement in space and time.

Cognition refers to the whole of efforts to survive, the latter being the decisive factor.

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<sup>278</sup> The introduction of the concept of a mind distinct from the body seduces into probing the location of it. Question is obvious: what are the historical circumstances promoting the introduction of that concept? Is it referring to something tangible or is it nothing more than a construct? Research into the history of the concept can help.



# I. The human condition, two essays

## First essay: the core

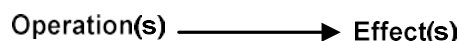
Until recently I considered myself quite fortunate to be interested in two different fields of research, that of paleoanthropology in particular the sector concerned with the emergence of the type of knowledge characteristic for the human and on the other hand the peculiar developmental history of Western thought.

The interest for both domains is no coincidence. From an action theoretical point of view the focus is on the operations in a technical sense i.e. what has actor X to perform in order to bring forth 'condition' Y. But as a trained philosopher I was aware of the fact that the meanings of the concepts dominating the discourse were not non-committal. The said meanings originated against a background of particular historical circumstances. So in order to realize a clear view on the operations it was necessary to get an insight in the historical biased meaning allowing these to be put into brackets.<sup>279</sup> So apart of being really interested in the history of Western thought, the move taken in the actual context had a rather methodological motivation.

That was the situation until quite recently in a condition of half sleep I realized that actually in both domains the same basic scheme seemed to be present.

I will clarify this in three steps, the first two in relation to anthropogenesis and the last on the mentioned history of Western thought. It will be brief because I want to focus on the core of the idea and moreover I have in previous texts elaborated on each of the levels.<sup>280</sup>

The approach is that of an action theory i.e. it will focus firstly on operations executed in the open followed by attention for the effects of these operations. By this the **formal scheme** is quite simple



### First level

First, second and third refers not only to an ordering in time (phylogeny) but as well to the dimension of the development or construction. "First" in that sense provides the stepping stone being the necessary condition for the further development.<sup>281</sup>

The first level is about the adaptation of a stone implement in order to bring forth a tool with increased efficiency in the context of goal direct action. In the course of this process attention went to formal characteristics serving the goal set (improving the implement). In this a motor and perceptual selection gradually took the form of a filter, developed into a stable motor and perceptive configuration. In

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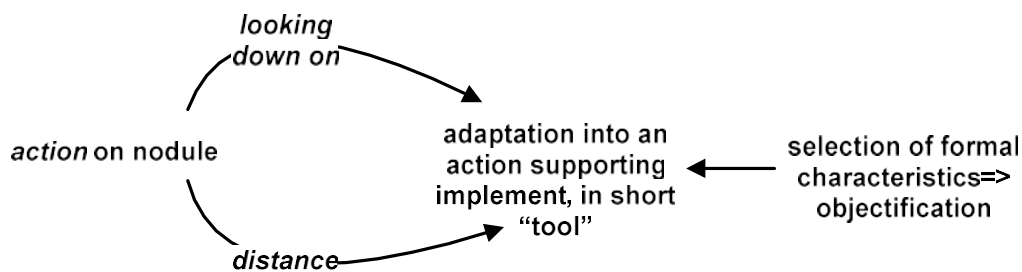
<sup>279</sup> The idea of "Einklammerung" suggested by Husserl in his book Ideas dating from 1913.

<sup>280</sup> The Forgotten Transition, The supplement; The linchpin; Beyond MET; Script...

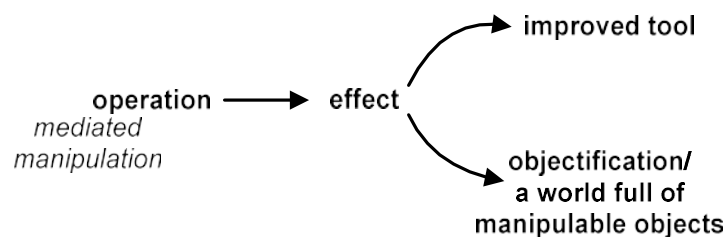
<sup>281</sup> To be stressed that further development is contingent, it happened but did not need to and, coincidental i.e. it happened by accident not by intent.

contemporary language it could be said that in the approach an “object” got installed, an object at the same time in a concrete form (the tool at hand) and as a set of formal characteristics (mass, texture, volume, weight, handedness...). I have called this objectification but keeping in mind that this is not a natural thing, merely a motor and perceptive configuration.

Objectification is the first aspect in this development. The second dimension is that in that process not only formal characteristics got selected but as part of it a perspective of taking distance came in place. Judging the quality of the adaptation involves such a “move”. Not in the sense of “an intention provoked the taking if distance in order to...”<sup>282</sup> but a haptic exploration and experience based evaluation. The third aspect is that this taking distance does not take a straight view but in metaphorical terms a view from above, a stance of consideration. *There is something there in front of me and I look on it from above.* In short, there is a coming into being of the act of objectification taking place in a mode “a view from a distance looked upon from above”. This could be called “**an object focussing arc**”.



The product on the level of the tangible is an improved implement and on the level of perception a reorganization of the input into an object-configuration by this gradually transforming the interpretation of the environment into a scene composed by manipulable objects.



The last scheme is the substrate transforming a great ape into technical skilled one.

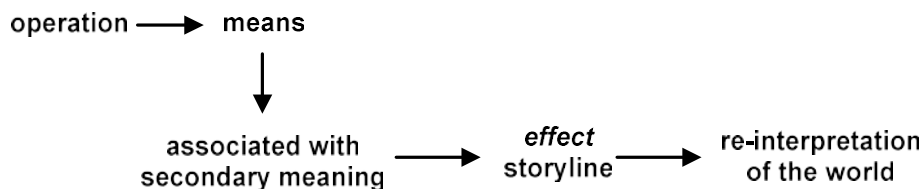
Comment in the margin: Mediated manipulation is complex in the sense that a) an action is applied onto what will become a means, b) a means is used in an action or, c) combination of both a and b. In fairness this difference has to be mentioned but for the actual context it is not immediately important.

<sup>282</sup> A teleological perspective as in Holloway’s idea on the emergence of language “it had to come in place”.

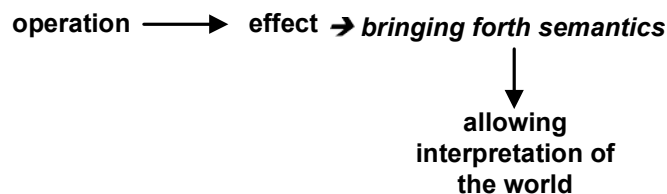
## Second level

In this case the means used in an action is becoming associated with an incidental meaning in the experience creating a displacement in time and space.

While simple and occasional in the beginning it might develop into a complex array of scenes of this type by this creating storylines, ways of interpreting events in the environment.



Applied on the basic scheme



Bringing forth semantics is the effect in terms of technical realisation. Focussing on operations, these are the activities and on this level which are of interest.

This technical intervention allows to interpret events in the world which is the pragmatic effect i.e. the effect experienced. This is not a just so effect but the dimension initiating further exploration and use.

Easy to understand: once mastered speaking, the technical aspects of bringing it forth escapes us while it is the effect stimulating to continue this practice.

Of importance for this contribution is that the product of this level is semantics, irreflexive the content i.e. the pure fact of producing meaningful content disregarded the content of it. The story itself is of no importance here.

Comment in the margin: Until recent this two levels constituted the subject to be studied. As said the attention for the history of Western thought was only instrumental. Until recent indeed it dawned on me that the same object focussing arc was present to on the level of the semantic, more specific in the way the semantic content got structured in what would become the Western culture from a certain moment in time.

### Third level

So far the focus was on the organization on the level of technique i.e. what operation making use of what exactly brings forth effect Y? The conclusion on the previous level was: 1) it produced semantics, 2) allowing interpretation of the world.

The focus will now be redirected from semantics (displacements in space and time) as an effect or a product irrespective the content, the proper fact that a story has been produced, onto precisely the content, the theming present in the content.

The suggestion is that the “the object focussing arc” remains but the object will take a specific guise.

The previous stage concluded with the production of semantics, a storyline. All attention went to the product. Now the focus will be on the type of the content.

In the period preceding the turn which will be discussed later the story took the form of a myth. I prefer to call this an articulation of existence. The story only expresses an act (do this or that), an order to perform an act (moral and/or legal ruling), a condition (feeling sad or being poor), or some information (sold x cows...). In short the character of the story is that of an act amongst all other acts like taking a breath, walking, fighting, lighting a fire, making love...

This character is universal.<sup>283</sup>

Let's now focus on the turnaround.

It so happened that in the transition of the 6<sup>th</sup> to the 5<sup>th</sup> century in some regions around the Mediterranean the concept of the invariable got introduced soon followed by the question into the nature of the invariable.<sup>284</sup>

The attentive reader will have observed a remarkable shift. In the mythical period the story of the version itself was object of attention. It could have been an order “do X...”. In other words the expression as an expression is the object of interest. But from now on a semantic *part of* the expression – the reference to the invariable - becomes the centre of attention, becomes questioned.

This way of approaching is so engrained in us as Westerners that the objection spontaneously arises “that is the natural way thinking is getting structured!” On this I can only answer quite firm “it is not!” If there is something that might be called natural and that is even the wrong qualification, then it is the ability to produce storylines whatever the content. On how a storyline acquires its particular content is an altogether other subject which would divert to far off and is even of no relevance here. Relevant is the fact that the storyline changed in a particular way. The content acquired a particular structure.

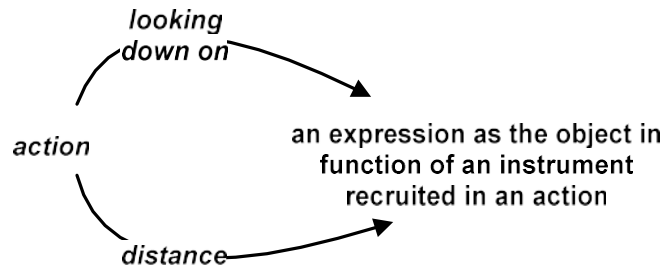
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<sup>283</sup> On all too hasty objection could be “there has been science and contemplation in India, China etc also...”. Indeed, but they always have been performed in function of higher power (emperor, divine instance, lord, set of supreme values...). For an interesting discussion on the difference: Almond, P.C. 1988. *The British discovery of Buddhism*. Cambridge; also Quack, J. 2012. *Disenchanted India*. Oxford University Press; furthermore but in a broader approach Nisbett, R.E. 2003. *The geography of thought, how Asians and Westerners think differently... and why*. The Free Press.

<sup>284</sup> For an elaboration, reference made to other texts for instance “Realizing human cognition in the cross-section of life”; “Mind what are we talking about”; “The remarkable character of Western thinking”. Further the invariable is also getting worded as “that what is” (Greek: *hoti est*) subsequently the question “what is that (the nature) of that what is?” (*ti esti ti*).

It took the form of the object focussing arc with that novel specification that the object – earlier restricted to a set of formal characteristics, now took the form of a particular question “what is the nature of that what is?”

Recall the *object focussing arc*

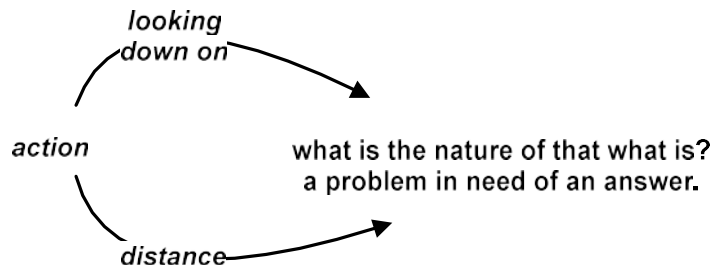


What remains? The structure or the stance of looking upon from a distance.

What changes? The role of an object is no longer the expression (as an instrument in a larger goal directed enterprise) but the object of attention is now: a semantic meaningful unit in particular “what is the nature of that what is?”

This pattern, a problem in need of an answer, is since that period the theme dominating the structure of thought based on the practice of the Greeks.<sup>285</sup> Take as an illustration the whole of the fundamental scientific enterprise: it gauges in the nature of the cosmos, it tries to formulate an answer on what is ultimately the nature of that what is.

The above scheme becomes



There is a problem installed in front of the actor, he takes a stance of distance and looks upon it from above. It comes down to the fact that in the “object focussing arc” the object component becomes specified as a problem and thus “the problem focussing arc”. In this all components constituting the whole of the scheme remain of importance: not only the object, but also the stance of looking upon from a distance.

The conclusion is evident: the same structure can be recognized in each of the three levels.

<sup>285</sup> At this point the narrative acquires the character of a problematization, it becomes problematization.

### **A few comments**

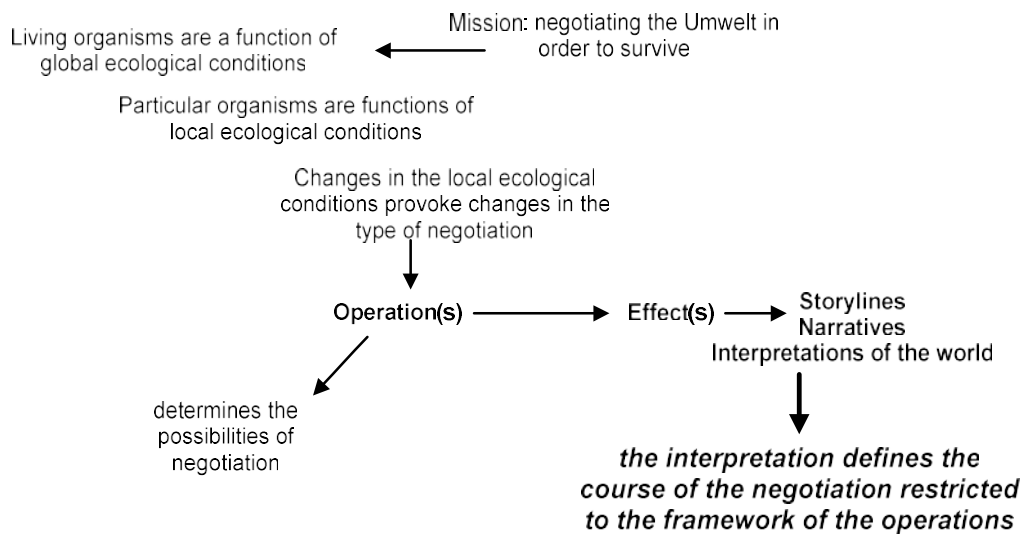
- It might become observed that the object on the first level, a tangible tool is very different in kind compared to the object on the level of semantics, the problem as object of scrutiny. Here too there is a development. Cutting corners it comes down to
  - a) Repeated concrete actions drive the perception in the direction of a selection of formal characteristics.
  - b) Through practice and taking a large window of time into account, the environment becomes viewed as a set of manipulable items.
  - c) The next step is that whatever is subject to manipulation becomes to be labelled as an object. (As for instance verbal thoughts can be manipulated by the manipulation of means called symbols, verbalized thoughts become objects). It needs to be mentioned that this is a subject needing a proper contribution.
- Did the development coined "anthropogenesis" inevitably force into the type of Western thinking? There is absolutely no reason to assume this. The whole world could have been dwelling in myths for ever. It was only by coincidence that in a certain region the circumstances were thus that this concept "the invariable" got introduced.
- This development is not to be understood as a radical switch let alone an abrupt one. In the beginning of the Greek thinking it too was devoted to higher goals such as living a virtuous life in accordance to truth. Actually the mythical dimension never evaporated completely. On the contrary it still shows outbursts of activity and blind commitment. But it was at the point mentioned that interest in the nature of things became questioned, a movement once set in motion increasing more and more until it became the dominant paradigm in Western culture.
- This development not only took place on the level of quantity but also of quality. In the transition from the 16<sup>th</sup> into the 17<sup>th</sup> century the focus on the measurement of things and moments in procedures became a central topic. In the atmosphere of Galileo everything which could be measured had to be measured and what was not measurable yet should be made measurable. From this moment on the efficiency in answering the question into the nature of things increased in an exponential way. Another moment of acceleration occurred in the 19<sup>th</sup> century when the cooperation between the findings of philosophy of nature i.e. science fused with technical inventions.
- A growing interest in the way of cognizing and the quality of knowledge as a product marked another turning point. Here knowing folded back on itself. The relevance for the actual context is that the act of scrutinizing and bringing forth knowledge itself became the object of that activity.

## Bridging the essays

Recall the formal scheme

Operation(s) → Effect(s)

In the previous part the attention went on the structure characterizing the side of the operations  
Somewhat more elaborate it takes the following form:



In the second essay the focus will be on the effect in particular the importance of the ability to bring forth narratives allowing an interpretation of what is going on in the environment.<sup>286</sup> Interpretation could as well be understood as the content of knowledge. But what is knowledge, the human type altogether?

As mentioned in the introduction, this essay will discuss different themes.

The first will offer some thoughts on anthropomorphizing and anachronizing. The second will be about explanation, a concept only belonging to the human register of meaning. The third chapter offers a clarification on the technique and especially on the power of projection. The last part is the boldest. It looks the question directly in the face: what is the nature of 'human' knowledge?

It is time now to move on.

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<sup>286</sup> The qualification "allowing" is actually not correct as once in that mode, there is no way back. The human is doomed to produce narratives. Secondly it is necessary to be aware of the restriction imposed by the framework defined by the operations. It is quite easy to understand. Take driving a car. Once in the car and engaged in the traffic one cannot, in principle, avoid following the logic involved in driving a car on the road. The same principle goes in the actual context. Interpretation, more general knowledge is brought forth within the framework set up by the operations in question. As will be made clear it is not an ethereal domain transcending all boundaries.





## Second essay: Fathoming the nature of 'human' knowledge, touching the grounds of the human condition or, looking through the eye of the human

This essay counts three main parts. The first discusses anthropomorphizing and anachronism as special cases of a general practice: interpreting the world through human understanding. It will be argued that it in all aspects is a human embodied enterprise.

The second part will be on one of the most if not the most pervasive technique in the act of understanding: projection. The final part looks the monster right in the eye: human knowledge what is it exactly?

### Part one: seeing the world through the eye of the beholder

#### *Introduction*

Anthropomorphizing is a common practice. It is easy to observe in the expression of people holding a pet animal. Human moods and intentions are swiftly attributed to the animals as in the often heard "animals do not deceive" while honesty rising from a framework of values is a typical human characteristic. Animals have emotions and instinct, not values. This is the most common way to understand anthropomorphizing at the same time the narrowest as the practice reaches much further. It for instance becomes also applied in relation to objects. An old computer is said to be unreliable. A failing car can expect to be kicked as if it can be blamed and punished. As a matter of fact the expression just uttered that a failing car can expect... provides another example. Cars have neither expectations nor intentions to fail.

Anachronizing in turn is the practice to project interpretations relevant in actual events onto situations in the past characterized by quite different circumstances. The conviction that the human psychic architecture underlying appreciation of world and life remained unchanged over the centuries is not uncommon. In that perspective man from the Middle Ages is getting approached in the same way as if he was living today.<sup>287</sup> Tendencies typical for a capitalist mentality become recognized in behaviour from times long gone however the feudal way of life for instance was of a quite different order.

So far for some introductory lines, time to specify ideas.

Anthropomorphize and anthropocentrism are akin: man as the centre of the universe, the yardstick for raising an understanding of all what is out there. It might be taken so far as to endorse the anthropic

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<sup>287</sup> In the introduction of "L'invention de l'homme moderne" the historian Robert Muchembled referring to the centuries preceding the French Revolution observes that a Freudian analysis could already be applied on the upper-classes but not on the peasants in the countryside. What is exactly what has been said. (Muchembled, R. 1988. *L'invention de l'homme moderne*. Librairie Artheme Fayard.)

principle: the conditions must have been thus that man had to come into being. This however is not the path taken here.

In this context anthropomorphizing comes down to the attribution of meaning from the point of view of the human condition.

The difference with the previous example is that in the latter case the projection is fed by the conviction that the interpretation providing background is the natural condition, while in the approach taken here this background is taken to be a particular perspective based on the human condition. In short, while in the first case the interpretation is taken as a natural truth, here is recognized that the perspective is taken from a particular form providing condition. Man has after all a particular way of negotiating the environment from which an understanding of the world follows.

The following observation is of importance. The human is able to provide a description of all this. Not as an independent observer – the latter being a fiction; but making use of exactly the same means and techniques used in the act of anthropomorphizing however restricted to a report of the operations executed.

Following the same line of thinking anachronism comes down to a specific type of anthropomorphizing projecting human characteristics proper to the present onto events and behaviours from the past.

The common feature is that from out one and the same frame of reference meaning is projected on the world. Two examples will be discussed: on the one hand the way the mythical phase is getting understood, on the other the concept of “explaining”.

### *The mythical period*

The introduction by the so called philosophers of nature of a particular way of organizing thought is commonly accepted as a turning point in the history of Western culture. Without exception this is getting confirmed in lectures and accompanying textbooks at the same time distinguishing it from the previous style characterized by the presence of mythical storylines. These become presented as examples of pre-scientific thinking.

Sounding familiar, doesn't it?

The thinking of the philosophers of nature is specific. It is characterized by what has been called the problematizing arc.<sup>288</sup> The philosophers of nature actually are the first to redefine some theme into a problem, installing that in the focus of consideration in order to provide an answer. The idea that this takes the form of an arc stems from the perspective taken. Considering is in a sense looking down onto something in order to investigate.<sup>289</sup> It goes without saying that in the previous period problems also occurred, but these were practical in nature: how to organizing a workforce, how to distribute food, how

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<sup>288</sup> In for instance “Chalk lines providing the blueprint of Western thought” and the added illustration “The hype about the workings of the mirror neurons”.

<sup>289</sup> It is actually a particular application of the much older means-goal-arc or from a more dynamic point of view the move of mediated manipulation. The target in the actual case is not a tangible situation or a task to fulfil but a meaning or semantics. See also the first essay in this volume.

Cf. Gilbert, J. 2018. The Forgotten Transition.

to conquer an enemy.... The problems introduced by the philosophers of nature differed in a remarkable way. They questioned the nature of things, of conditions, of virtues. Here not a practical solution was at stake but a probing into the very nature, the character, the essence of something. The original meaning of philosophy enters the scene: the love, the endeavour, the urge to know the true nature as a value in itself. This could lead to a right(ful) way of living. It took the form of true knowledge enrobed in an ethical dimension. What got known this way approached truth and resulted in a higher quality of life.

The history of Western philosophy, eventually giving rise the scientific thinking, is the history of the struggle with this type of problem setting. Of course, in the previous period life could be harsh also and as such problematic. But that type of problem was in a sense tangible. With the philosophers of nature life itself became a problem by questioning its own nature. The question was no longer 'how to live in order to fulfil the needs of the community or of the ruler' but shifted in the direction of 'what is good life as a value on itself?'

Mentioned earlier: the mythical period is more than often presented as the run-up which inevitably had to bring forth the thinking mode of the philosophers of nature.

While this whole atmosphere did not even exist in the same sense for a feudal peasant a television set did not exist. This type of problematizing did simply not occur. Simplified the mythical period could be taken as a set of rules when confronted with the burdens of real life, on how to behave not as the art of pondering on the problem what the nature might be of that what is (*hoti esti*).

The introduction of the invariable further giving rise to the question into the nature of it might well be a historic contingency, maybe a spin-off of agriculture (version by Harmann) or the need for a decisive criterion (version Lloyd).

The bottom line is that taking the mythical period as the run-up into philosophy of nature having unavoidably to appear is nothing else than an anachronism. Starting from the familiar sphere of problematizing it comes down to reasoning in backward direction in order to provide a sense making explanation of the mythical period.

### ***On the concept of explanation***

This does not hold an explanation of the previous part. Explanation as taken further is a theme in its own right however a similar type of dynamic can be recognized.

The following does not belong to framework of daily life. MacWhinney points out a condition of being ungrounded. Gärdenfors calls it being "detached".<sup>290</sup> What is that about?

Animals are bound to the local and the actual. They answer to fluctuations in the Umwelt on the basis of genetic predisposition, implicit learning processes acquired in infancy and through experience later in life. Action and reaction are getting heteronomously determined. Reflection does not occur, neither does

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<sup>290</sup> MacWhinney, B. The gradual emergence of language; chapter 9 in Givon and Malle, 2002, *The evolution of language out of pre-language*. John Benjamins Publishing Cy. P. 239. Gärdenfors, P. 1995. *Cued and detached representations in animal cognition*. Lund University Cognitive Studies, nr. 38.

considering alternatives. This is not to be understood as the behaviour of an automaton, it expresses the condition of a dynamic organism.

Let us turn to the human. What is the common representation on the coming into being of the human species, the so called anthropogenesis?

Literature following Darwin consequently, suggests that the human once shared a biological condition with all animals. Remind Darwin's sketch of the tree of life with branches all over. It is said that man is an animal distinguished from other animals only by certain features.

At a particular moment in evolution something took place which would enable man in the experience to detach himself from the local and the actual, the ungrounding as called by MacWhinney. He could realize a displacement in space and time. He could think about events happened earlier and in another place, or think of events which he would like to execute in the future as planning a hunting party.

Becoming able to realize this they could partially – in the experience - transcend the factual condition of existence. Partially because they still were bound to local ground and the actual moment, but by being able to consider, room for experimentation became available.

This development often gets depicted as a breaking point, a moment of radical transition. Quite rightfully so, as no other animal has ever shown signs of this skill. But just as often this fact is getting depicted as a moment of unhingedness, the feeling of security and safety lost. In a far later and more sophisticated form of interpretation it becomes depicted as being caught in a symbolic order opening a shortage, a *manco*.<sup>291</sup>

Hence the reference offered to ungrounding, having lost ground or attachment.

By the new ability<sup>292</sup> to provoke in the experience displacements in time and space, in a metaphorical sense room is getting created allowing to interpret the condition in which one finds himself. Calling this room is only a topological metaphor for the ability allowing multiple versions<sup>293</sup>. It is characterized by a specific register of meanings such as “intellectual understanding” and “explaining”. These are not general terms to be used in all possible circumstances but belonging exclusively to the register brought forth by the ability acquired. This is an asset not existing earlier.

It will be obvious that a particular version, i.e. an ordered sequence of displacements in space and time, is not popping up haphazardly. A version is an instrument to raise an understanding of the environment, better still to realize a grasp on changes taken with a somewhat tangible connotation. But when “understanding” commonly is getting mentioned, getting grasp in that sense is not the first thing thought of. Getting grasp is understood intellectually i.e. getting grasp on elements of the environment *by manipulation of mental content*. It should be stressed again and again that these contents bear the character of displacements in time and space.

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<sup>291</sup> The symbolic order is another way of describing the linguistic type of world the human lives in made possible by the manipulations of second order stimuli as coined by Vygotsky. The “manco” gets also called the symbolic castration.

<sup>292</sup> I feel reluctant to use the term faculty because it inclines to the suggestion of some source from which the ability sprouts while ability itself is closer to operations to execute.

<sup>293</sup> I guess that Dennett had a similar intuition when referring to multiple drafts (Consciousness explained, 1991).

“Becoming detached” has a positive connotation. It suggests liberation. “Ungrounding” on the other hand sounds rather negative suggesting the loss of solid ground under the feet.

However the question is if it is justified to speak of a loss of certainty characteristic to the previous condition in which behaviour was provoked in a direct way by the conditions of the moment?

That becomes difficult to assume because a feeling of loss requires a being conscious of the previous condition, a consciousness or a knowing that - in that stage - did not occur. It is similar to what is known as “child’s amnesia”, not being able to remember passages in life prior to the acquisition of language. The earliest memories always float on wording. In the context discussed something similar occurs. The moment the new opportunity is finding introduction, there is no form of awareness of the previous period because that type of consciousness is precisely brought forth by *and only by* the new ability. What preceded vanished in oblivion. But even that is the wrong way of expressing because oblivion suggests that something can be forgotten. In this case there is even nothing to become forgotten, the day of yesterday did not exist, because remembering its existence requires the abilities of the new opportunity. So in this case a similar type of amnesia occurs. What happened in the past did not exist in the same way for a peasant in the Middle Ages a television set would have been unimaginable.

It happens that a miss of firm ground is getting mentioned with it inducing a feeling of being confronted with an abyss. This urges for a storyline able to explain and maybe how to handle this disturbing condition.

Is this condition then not indeed provoking a feeling of being uprooted?

An answer requires taking a particular window of time into account.

In first instance it would be wrong to consider the introduction of the new opportunity as a sudden turning point confronting the involved abruptly with a new and in this case disturbing condition, yesterday being determined, today forced to make a choice. If this development followed the same pace as the development in the fabrication of stone tools, then a window of time of at least one and a half million years – if not even more, should be taken into account. Compare to the actual period of fourteen thousand years since the introduction of agriculture and it gives an impression of the pace of the changes taking place.<sup>294</sup> A very long period may be assumed taking the introduction of proto displacements in the experience into the composition of more complex storylines. It must have been a development in conditions of a very slow decreasing of heteronymous determination countered by an even slow increase in autonomous decision taking. In these conditions a sudden feeling of loss of firm ground is unlikely if at all.

With this background a depiction comes in place of an organism that very slowly and quite intuitively from within immediate situations found results experienced as favourable, an effect stimulating to further trying out, gradually acquiring a better skilfulness. This movement takes the form of a forwardly aimed

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<sup>294</sup> The relation of the adaptation of stone tools and the introduction of the provocation of displacement in space and time has been discussed in Gillbert, J. 2018. *The Forgotten Transition*.

exploration rather than being fed by the disturbing feeling of a threatening abyss urging for alleviation. The terms “manco” and “symbolic castration” dwell in a similar atmosphere as abyss.

It goes without saying that considerations as just offered are no more than assumptions speculative in nature. The idea is to sketch out an alternative for the character of a darkness and dooming fatality, an atmosphere in need of alleviation.

Thirdly imagine for a moment an inhabitant of Sumer or a peasant surviving the feudal conditions of the Middle Ages. Would they be bothered by thoughts of being uprooted? The mythical phase discussed earlier in mind, more than probably they would not. They rather would be occupied by the harsh conditions in order to survive or with the pressing demands of the rulers. The presentation in which man seems to be confronted with an abyss in that sense only appears in a certain historic period.<sup>295</sup> More precisely it was the period in which the human became a problem to himself. Recall the philosophers of nature. The problem then was the quest into the nature or the essence of that what is (ti esti ti). The history of philosophy for a long time became the history of the different ways or storylines providing an answer to that question. Fifteen to sixteen centuries later the subject changed. Doubt arose about the quality of the stories offered, in fact the ability to know itself became questioned. Scholars such as Descartes and Kant were important players in the discussion on the nature of knowing and knowledge. It is precisely in that atmosphere of doubt and questioning that presentations originated in which the new opportunity presented as a symbolic order suggesting an uprooting, a black hole, a manco saw the light of day.

One could argue that this is a case of making progress as if the latter presentation would offer a more mature version than the previous. But the idea of making progress also is a historic version to a considerable degree driven by the development of the “scientific” practice since Galileo.<sup>296</sup> If the qualification “progress” is to be used than only in relation to successful negotiation of the Umwelt thus instrumental, not in relation to a more truthful version.

Approaching a conclusion, terms such as explaining, intellectual understanding and interpretation, follow from the introduction of becoming able to introduce in the experience displacements in space and time, eventually combined into storylines. They are exclusively imbedded in that introduction and cannot be positioned as a complement to a previous condition. The latter can neither be considered an access or a stepping stone in the same sense that being quadruple is not the stepping stone into becoming bipedal. It concerns contingencies.

Agreed, engrained in the mainstream way of thinking it might come hard to grasp, but it actually is not all that difficult. It comes down to the insight that the actual frame of reference providing an understanding, a frame of reference taken to be natural and evident becomes projected as one big equalizer.

In so far a difficulty might appear than it is not situated on the level of the content of the storyline (ways of meaningful explaining<sup>297</sup>), but to realize that it is all about the structures organizing the different

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<sup>295</sup> The medieval peasant probably felt confronted with the doom of hell but that was something else altogether.

<sup>296</sup> “Science” has been bracketed because it was actually philosophy of nature as a practice which would flow into science as a mode. The term science actually only got coined by Whewell in 1834 and only firmly installed by the end of the 19<sup>th</sup> century.

<sup>297</sup> The different answers given to the problem “what is that what is?” such as water, fire, earth, apeiron, atoms...

stories. As for instance the structure in which something is posed as a problem which consequently has to become considered, is a structure not present in the previous period<sup>298</sup>.

## **Part two: projection as a particular technique**

1. The projective method falls back on two components: a source and a goal domain. The first offers descriptions of what is understood. The second is in first instance unknown. But based on some features of similarity, that domain is made understandable by projecting known facts from the first. The structure of the atom discovered in the early years of the 19<sup>th</sup> century for instance has been made understandable by projecting onto it the model of celestial bodies and encircling planets as described many centuries earlier. Or consider the expression “I feel a pain as if needles are forced into my leg” and, “water is running over the walls”. The latter example wants to clarify that water is showing behaviour of the same type of a man is moving making use of legs (only man has).

It could as well be said that what is unknown is obtaining clarification by describing it in terms of what is known. So far the presentation of the basic scheme.

2. Projection is based on the recognition of a similarity of elements present in both systems. Referring to “a camel as the ship of the desert” then a similar movement is recognized. It does not suggest that a desert of sand is similar to the ocean. This example clarifies a similarity but at the same time points out that a misleading connection is also possible. When an effort is made to understand the psychic condition of people living in times long gone then two components are at hand: people and psychic condition. It will be clear that biological similarity of people now and then does not in itself allow to conclude similarities on the level of psychic condition. The peasant of the Middle Ages held very different beliefs underpinning moods and guiding behaviour than someone living in the present.

The large coloured eye spots of panda’s show similarity with the large eyes of babies hence their appeal on people to engage in cuddling. Ethologists however will caution that a panda is whatsoever still a bear and can be dangerous. Anachronism occurs in the case a similarity is wrongly attributed across different moments in historical time. In the other case of animal behaviour being described in terms proper to humans can be spoken of anthropomorphism.

Concluding, projection allows a nearly endless increase of knowledge but it at the same time has been made clear that the risk on mistaken projections is real. This has also been made clear by the examples provided in the discussion on myths and explanations.<sup>299</sup>

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<sup>298</sup> Equally not existent in other still actual modes such as revelation, religious belief, new age versions etc.

<sup>299</sup> The different forms of projection increase the possibilities of the prototypical language competence in an exponential way, the latter itself based on the manipulation of second order stimuli. For this subject the publications of the movement around Lakoff are recommended. In my opinion it is precisely that technique lifting the prototypical mode of language to an adult level. Mechanisms underlying syntax, for a considerable period considered to be the *deus ex machina* of linguistics are relatively simple dynamic ways of ordering as Chomsky himself explained in the minimalist program. (Chomsky, Hauser and Fitch. 2002. *The Faculty of Language: what it is, who has it, and how did it evolve?* Science, vol. 298, issue 5598; pp. 1569-1579.

3. Cases of projection discussed occur between clusters of configurations whereby orderings not yet understood are getting described in terms of clusters understood. But outside of this context and on the most fundamental level imaginable there is yet another dynamic deserving to be coined projective in kind. What is it about?

The use of the term 'perception' is not non committal. It implies a particular point of view.

Just the use of a dedicated term makes it appear as if it is something existing on its own. At least it can be studied as an isolated domain provoking the impression that for the workings of that domain all what surrounds it is of no importance. A presentation of this kind holds a particular way of selecting and ordering of elements. This means that it suggests a particular view on man, by extension on any organism. Being aware of the fact that this is actually a particular perspective allows bracketing by this creating room for another perspective.

People, organisms in general are living creatures. In line with the previous remark, here also one has to resist the tendency to consider a living organism as some isolated and encapsulated unit. That idea has actually a historical origin, a subject which would lead too far, hence not discussed here.

An organism is a function in the sense of derivation of the conditions and circumstances in which it came into being. Without these it would not be at all. Bacteria as a sample of the earliest living creatures did not appear from thin air but from particular conditions.<sup>300</sup> Living creatures are characterized by a process of metabolism, there is construction and breakdown. So there is a dynamic tension between the organism and the environment in which it thrives. But not everything is advantageous. The organism in itself already consists only of a selection of what is available and the existence, i.e. taking in building material, is in line with that coming down to a process of selection. Some elements are food others are harmful and to be avoided. It could as well be called sensitivity as a discriminating competence.<sup>301</sup>

Mentioning selection and sensitivity in function of survival is another way of referring to processes commonly called perception.<sup>302</sup>

The approach offered so far stresses the dynamic intertwinement of organism and environment, and the sensitivities serving metabolic processes. It has nothing to do with offering explication in function of unveiling some truth, the context in which perception is commonly getting understood these days.

The sensitivities and the selectivity in rendering "a picture of the environment" following from it is getting determined on the one hand by the characteristics of the body of the organism and on the other by the condition of the moment of the primary motives. Grazers have other sensitivities for building material

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<sup>300</sup> It is not a coincidence that a human body holds 50% of water, a new born even 75%.

<sup>301</sup> For a more elaborate approach, Marc van Duin, Fred Keijzer and Daan Franken (2006) on minimal forms of cognition

<sup>302</sup> Strikingly perception goes back on the Latin *perceptionem* or *taking cognizance*. This puts the meaning of the term in an already much later – the 15<sup>th</sup> century - developed frame of reference quite different to the rather biological approach taken here.



than earthworms.<sup>303</sup> On motivation, if there has a satisfying quantity of 'food' been taken in to keep the metabolism running, there will be little pressure to drive up the motivation.<sup>304</sup>

In summary the abilities characteristic for the body of the organism concerned in relation to the conditions of the moment determine selection by the sensitivities, otherwise coined "perception". From another perspective described it could be said that the content perceived, the "image" realized, is a projection of the mentioned abilities and condition.

If the use of the term "meaning" would not be characteristic in a sense exclusive to human practice,<sup>305</sup> it could be said that the condition of the immediate surroundings falling within the reach of perception obtain meaning. Recalling however the previous part, this is a case of anachronism. Meaning as presently understood does not occur yet. There is however a dynamic fully biologic and exclusively aimed at negotiating the fluctuations or the burdens of the Umwelt. Likewise, referring to the meaning of the environment for an animal is a case of anthropomorphizing. For an animal managing the tension in relation to perturbations happening, in short relation regulation, is all what is taking place, and this always from the perspective defined by the characteristics of the body and the condition of the primary motives of the moment. The idea itself of "perception", the act of conceptualizing a selection of dynamics and features into "perception", is the product of a way of thinking occurring against the background of particular historic circumstances.<sup>306</sup> This testifies of a different storyline or version, discourse, different from the period in which language was an act mainly. Remind the example in which a child calls for its mother.<sup>307</sup>

The human species developed skills based on a particular systematic involved in mediated manipulation and the use of dedicated means, originally tools later symbols, allowing to give expression to acts performed and by doing this manipulate these such as in reordering and by all this expanding the world in the experience, the world experienced.<sup>308</sup>

This ability introduces a different form of meaning than the one raising form projection as described in the previous paragraph. From then on the purely embodied mode is becoming supplemented and sometimes replaced by the effects raised by the manipulation of means in the function of stimulus of second order. But the move, the dynamic remains the same. In the first instance mentioned the projection is related to the characteristics of the body, in the second it is related to the system of executing some action, mediated manipulation in particular.

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<sup>303</sup> There are of course also sensitivities in other domains such as finding a partner for procreation, ward off threatening instances etc. But the dynamic is similar.

<sup>304</sup> Lions having eaten rest and leave potential prey often for what it is.

<sup>305</sup> This way of applying the term occurs much later in the development.

<sup>306</sup> As already has been mentioned, perception as understood in the 14th century referred to understanding plain and simple. That changed into the study of processes on the level of physiology and psychology (Gestalt for instance). A historic development also occurred here.

<sup>307</sup> A child calling for its mother does not attribute a denomination to a living creature; the call "mother" collapses with the creature.

<sup>308</sup> For an elaboration, cfr. Gilbert, J. 2018. *The Forgotten Transition*; chapter 2 in particular.

At this point a comment is in order. Taken what has been said to its full consequence that implies that the idea of an independent observer somewhere outside the field of action, the so called Achimedes' lever, cannot exist in that setting.

The newly very slowly developed approach based on the use of means, brings forth a frame of reference in which term as perception, knowledge, intellect and understanding become introduced.

This is a path exclusively taken by what would become the human species; and as such the application of the terms mentioned implies an act of interpretation unavoidably characterized by a perspective of anthropomorphizing. From then on this will become the unique vantage point from which the world and all that happens in it will be understood.<sup>309</sup>

The condition of being a human is defined by exactly this, and once taking part in this mode, stronger still being transformed into this mode, there is no way back.<sup>310</sup>

As such this exposition is not to be taken as critique.

The aim of this part is to point out that the introduction in phylogeny of a particular perspective can be pointed out. It becomes an anthropomorphizing fallacy the moment this condition is taken to be the natural way of things to be, a natural frame of reference and as such criterion to appreciate all what is.

In this part a tension between two appreciations was in play. On the one hand, dominant in common thinking and in literature, the idea lives that man in first instance is a creature driven to know. The alternative takes the perspective of embodied instrumentalism. It hold that man like any other creature alive in first instance is driven by survival and from that perspective is aimed at negotiating the fluctuations of the environment. Knowledge from that point of view is an instrument. It will be clear that the texts offered so far take the stance of the latter position.

### **Part three: looking the monster in the eye, what stuff is knowledge made of?**

It is now the right moment to confront the problem.

For quite some time I was convinced that knowledge is not something standing on its own but a dimension of being alive, a dimension which has been selected, isolated, encapsulated and elevated to a concept.<sup>311</sup> Whitehead called this type of intervention 'the fallacy of misplaced concreteness' because after having been conceptualized it became appreciated as something really existing in that manner.

It has however become clear that this misleading reaches much further than would appear at first glance. On closer inspection what has been called knowledge consists mainly of contents in the experience,

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<sup>309</sup> "Unique vantage point" in contrast to the conviction that it reflects the World as it really is out there.

<sup>310</sup> For a discussion on the condition of irreversibility, reference again to Gilbert (2018)

<sup>311</sup> Isolated was: bodily sensitivities or sensory stimuli, methods in approaching obstructions (heuristics), procedures which in the past have been successful in dealing with certain types of burdens... all collected under one umbrella.

contents bearing the character of displacements in space and time.<sup>312</sup> In other words these are human made constructions in the same way as window frames are. This comparison is not as daft as it might sound because window frames exist only by humans having introduced and made them. The same goes in the case of this type of knowledge: it only exists because humans introduced and realized it.

Summed up in one sentence, knowledge is a construct introduced in the experience by the manipulation of stimuli of second order provoking a content characterized by a displacement in space and time.

This statement bears remarkable consequences.

Mentioning knowledge comes down to speaking about something which is construed on the basis of operations (1) subsequently projected onto the environment (2)<sup>313</sup> at the same time acquiring the status that it in that form really exists out there (3).

This way of thinking does not change the usefulness of the enterprise and its products but undermines the mainstream appreciation; an appreciation that without the slightest form of reluctance is taken to depict the natural way things are.

This insight so far is already quite remarkable but it becomes totally so considering that this type of understanding is becoming projected on all other creatures alive including the accompanying conceptual register such as “they understood, they know...” by this suggesting that animals do something like understanding. With that perspective as an organizing filter, the animals are submitted to all kinds of test situations proper to human beings such as finding food hidden in a maze, or get hold of food locked into a complex puzzle like contraption or behaviour psychological techniques are getting applied in order to find out how far they cope in learning human like symbol systems. It makes it appear as if the human approach is a neutral and totally objective technique in which human characteristics are absolutely non-existent.

#### Interim consideration

We consider ourselves as thinking human beings. We consider other animals in particular the warm blooded ones most akin possessing some primitive form of thinking, certainly not the verbalized type as they do not show sign of a language based on the use of symbols.

But what about a cow, a fox, an ape or an eagle? Would those creatures from out their perspective consider this ability? Would they consider having a thought? That is however the wrong question. The right one would be: do they even *consider* at all?

Realizing that these types of thought such as questioning and considering only are produced by human abilities and hence from out the human frame of reference, the question arises into the condition the animals find themselves in. And even that question itself can only be phrased from out the human perspective. This should convincingly make clear that whatever we think *always* departs from the human condition, that any thought about any subject at all is *always* taking a human perspective.

Is this statement taken to be critical? Do animals not have knowledge then?

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<sup>312</sup> For a more extensive discussion on “displacement”, Gilbert, J. 2018. The forgotten transition. Also Gilbert, J. 2021. Realizing human cognition in the cross section of being alive.

<sup>313</sup> Observe that is not spoken of scenes in the environment for the simple reason that the projection itself organizes relevant stimuli into scenes. (simple example: being hungry focuses on anything which could serve to feed).

An attempt to provide an answer requires caution because the word 'knowledge' covers more than one payload.

When humans mention knowledge it seems to consider one thing and one thing only. But as a matter of fact the human knowledge is an amalgam whereby it is even not clear if one mode of it rightfully deserves to be called this way and so the risk is that speaking about knowledge in practice comes down to referring to very different things altogether.

What is going on in the case of animals?

Animals are in a condition which could be coined "relation regulative".<sup>314</sup>

It comes down to a general experienced condition fed by the particular types of sensitivities and motor abilities the body features, all this in a tension with the state of the primary motivation, the whole resulting in behaviour providing strategies based on inheritance, upbringing and experience. This condition "translates" in a particular way of an intertwined tension with fluctuations occurring in the immediate surroundings, the Umwelt as the world construed by the abilities of the body – so called by von Uexkull.

It is for a human observer – let's not forget: provided with the frame of reference humans have developed – possible to recognize in all this, better still to configure aspects into one concept "knowledge". It has to be clear that what is assumed to be knowledge in the behaviour of these animals is after all a human projection or construction. It is more than plausible to accept that this appreciation is not in any sense part of the world experienced by these animals. For an earthworm or a pig the very idea of something like "knowledge" is in absolute sense alien, it is of a completely different order.

So it has to be confirmed, animals testify of some feature which *from a human perspective* can be called knowledge.

But it does not end here.

Humans have become able to introduce in the experience a displacement in space and time, a meaningful content which apart of other designations such as imagination also can be considered knowledge.<sup>315</sup> At this point no statement is made about the accuracy of the content; in focus is the fact that a meaningful content can be introduced.<sup>316</sup>

But that mode of meaning is of a very different type than what has been mentioned in the case of the animals. In the end it allows to compose meaningful storylines, meaningful scenes characterized by a register of terms only having meaning in that very frame of reference. It embraces concepts like man, animal, soul, consciousness, mental, perceptual and in the same atmosphere knowledge, understanding, intellect and even meaning as a concept itself.

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<sup>314</sup> This idea has been borrowed from the approach explained by Watzlawick, Bevellas and Jackson in the publication "The pragmatics of human communication" dating from 1967.

<sup>315</sup> On the different types of giving meaning, cfr. Gilbert, J. 2021. The particularities of Western thinking.

<sup>316</sup> The central role of being able to bring forth meaningful content, in other words narratives, has also been suggested in the publication of Ferretti et al. (2017) concluding that "we proposed that the study of human communication has to be tied to the study of the cognitive systems underlying storytelling." Ferretti, F., Adornetti, I., Chiera, A., Nicchiarelli, S., Magni, R., Valeri, G., Marini, A. 2017. Mental time travel and language evolution: a narrative account of human communication. Elsevier: Language Sciences; xxx, 1-14.

But something remarkable is going on. Both modes are present in the human.<sup>317</sup> This distinction is however never made. In the common understanding “knowledge” is represented as one single subject. Moreover it becomes in that form projected on the animal way of being and by this inviting the human researcher to investigate animal behaviour from the only frame of reference he is familiar with. One has to keep in mind that this type with its register of meaningful terms is completely alien in the life of animals.

But things aren’t all that simple for the human too because “knowledge” is getting appreciated in different flavours.

1. There is knowledge understood as the objective, reality corresponding description of the world.
2. There is also a more moderate form of (1). Scholars not joining the line taken by naive realism and opting for the idea of knowledge as a model for instance, more than often still treat knowledge as a subject which still can be studied as something existing in an isolated form.
3. Awareness exists that knowledge is a filter projected over all what is; not only a filter but even more an instrument allowing to negotiate the environment.
4. There is the condition which non human animals find themselves in, a condition in which concepts such as knowledge, understanding, explaining and the like do not at all exist.

Does that imply that research into something as knowledge in animals would be of no use? Of course it does not. But the bulk of the literature testifies of never making a distinction between the modes mentioned, hence formulating statements on animals making use of concepts which strictly spoken only are applicable to human practice. Some recognize *politics* within the animal *tribe*. As a metaphor an acceptable approach, but it more than often becomes understood quite literally. Some – and not the least in the field of ethology - even pretend to discern basic forms of moral in animal behaviour. This is an absolute nonsensical form of framing as moral expresses the use of a certain criterion on the basis of values, a qualification and a practice complete absent in animal life.<sup>318</sup> Animals interact driven by the condition of the primary motives of the moment, kinship within groups and hierarchical relations constantly under stress, they testify of brood care, engage in temporal alliances to obtain food or a mate... but moral? Alas in publications of the kind an argumentum ad hominem plays. Some scholars have a high reputation in setting up ingenious test situations rendering interesting sometimes stunning results. This then radiates on all what is offered as an interpretation. But reporting observations is one thing, the interpretation quite something else.

## Conclusion

The conclusion to be made is at the same time trivial and far reaching. The way the human understands the world follows or is derived in a direct manner from the abilities and facilities the body provided,

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<sup>317</sup> Anticipating the fact, that the depiction of the animal condition is actually a projection only made possible by the mode proper and exclusive to humans. This should be mentioned but should be “bracketed” for the moment as it would complicate the understanding.

<sup>318</sup> Nonsensical here is used in the proper meaning of not having sense. It is in no way meant to be understood in a disapproving way.

allowing to cope with the burdens present.<sup>319</sup> That is self-explanatory and by this trivial indeed. Yet this obvious fact seems to be neglected while what actually are human projections – products of the human body - become taken for natural occurrences.

Looking back the belief of phlogiston as something really existing might today seem laughable, but it has been taken seriously for more than half a century as reflecting something existing really out there.<sup>320</sup> The same is the case for the model of an atom mirroring a planetary system or in a more abstract way think of the quote made by Hawkins that science in the very best of cases only brings forth models. These are yet a few examples of the fact that what the human “sees” in the world are projections, human constructs. But these can still easily be grasped by the understanding. The fact that this very same dynamic also is applied on the lowest of levels involving concepts such as body and mind, intellect, knowledge, explanation, understanding, communication etc. taken absolutely for granted, is getting totally overlooked.<sup>321</sup> These too are products brought forth by the manipulation of means functioning as second order stimuli thus provoking in the experience displacements in time and space, in the end installing what is called the human condition.

That is the core of the insight expressed in this contribution.

The way the world seems transparent to the observer in a self evident way can only exist brought forth by the operations generating displacements in space and time. Precisely by this type of action the world takes the guise of becoming unfolded into a multiplicity of human produced displacements in space and time, meanings or scenes from a different order than these in the animal condition mentioned earlier.

Taking a more prosaic turn it could refer to Genesis 1.27 “God created man in his own image (...)”. Man in that case actually being a projection of the divine instance. But Feuerbach in 1841 in “Das Wesen des Christentums” quite rightly reversed this move by stating that God was nothing else than a projection of human values.<sup>322</sup> What Feuerbach did took place on the level of the content of the story, the semantics so to say. The whole of the idea should however be taken to the level of the technical application “man is bringing his world into existence by projecting onto the environment the structures and contents of his

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<sup>319</sup> Some simple analogues: if the spectacles have red glass everything takes a red guise; if one only has a hammer then everything becomes seen as an application in relation to the act of hammering. In the same sense: the life-world of an earthworm is derived from the facilities of the body characterizing an earthworm.

<sup>320</sup> Stahl introduced the idea in the early 18th century while oxygen became defined in the 1870's (Priestley and Lavoissier).

<sup>321</sup> Communication in the human sense of transferring information has been discussed in *The Forgotten Transition*, chapter VI, Seven Misconceptions. Animals regulate their relation but do not engage in exchanging declarative information. From a human point of view in which this type is dominant, aspect of their behaviour could be interpreted in that sense. Think of the intricate dances exposed by some male birds to attract a partner. It is often said they convey messages. This is again an example of anthropomorphizing.

<sup>322</sup> In an anecdotic way one could also refer to Huxley pointing out to William Thomson that one only gets out what first has been put in, in a similar vein to Kant (*Critique of Pure Reason*, BXIII). It comes down to stating that a system is determined by the premises supporting or giving rise to it. In this case the human condition standing for the ability to reinterpret the world taking the place of the premises. And that is underpinned by the skill to provoke displacements in space and time in the experience. So the result produced cannot be anything else than confined by these basic building blocks. In a way I have the (maybe faulty?) impression that Gödel's incompleteness theorem could be understood likewise.

human condition".<sup>323</sup> The latter referring to the ability to bring forth in the experience displacements in space and time, in turn made possible by the manipulation of stimuli of second order, itself being a particular application of mediated manipulation.

So what is human knowledge – as we as humans understand it - in the end? It is not a sign left by a revealing God. It are not elements standing on their own out there waiting to be unveiled, a point of view shared by many in the natural sciences.

Inevitably product of embodiment it cannot be else then a set of displacements in space and time selected and organized along the line of a particular criterion and further projected onto the environment.

And, it is not a non-committal product. It feeds the (re-)interpretation of the world. This is not a choice. It is the result of pre-adaptation and education, with the particularity that once in that mode there is no way back. Hence one is in a sense doomed to interpret, at least accept interpretations produced by others (religion, common thought, science...)<sup>324</sup>

As an interesting comment in the margin, the above has a comprehensive and penetrating consequence on the psychic life of the members of a particular culture. There are three elements involved.

The first is the fact that whatever we do or whatever the condition we find ourselves in, it is always enrobed in a commenting discourse. As mentioned before once educated we are doomed to bring forth narratives. The second element is the set of discourses or versions by Wittgenstein referred to as "Lebensform" are not random or non-committal. They belong to a finite set of interpretations characterizing the culture one belongs to. People living in the Far East will share storylines different to people living in the West or aboriginals in the forests of the Amazon. So how we actually interpret the world and what is happening in it is defined by a particular selection of the set of interpretations accepted in a particular culture. Why a particular selection? Because in one culture there are different versions and flavours related to different peer-groups related to different sections of social life such as profession, family, hobbies, sports, politics, religion etc.

The bottom-line is that the way we appreciate events in our lives – that is the third element - is to a large degree determined by the scenarios that were taught to us.<sup>325</sup> To a large degree because there remains basic interpretations tied to the condition of the primary motives like mortal fear, sexual drives etc. What is considered neurotic in one culture might be normal in another. It will be clear however that this has a profound impact on the psychic life and well being of the individuals concerned.

One more elucidation has to be made.

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<sup>323</sup> If the nuance of semantic and technical level might be difficult to grasp, take "making bread" in mind as an illustration. The technical level involves the material and all the procedures needed to produce a loaf. The form, colour, smell and taste are elements making out the semantic level. Furthermore, the idea of making a world is often ridiculed by the reaction that man creates the world outside only by the force of his mind. The correct reading should be: he organizes input selected by the sensitivities of the body out of chaos out there (deduction!) into meaningful configurations making use of the abilities provided by the body he is. Hence an air born bird has another world than an earthworm. The projection to be mentioned is one step further in this enterprise.

<sup>324</sup> Gilbert; J.F.R. 2021. Building cognition in the cross section of existence.

<sup>325</sup> Eric Berne offers a overview of scenario's in *Games People Play*. 1964. Grove Press.

What is the statute of this contribution in the light of what has been exposed?

The text offered descriptions of how things appear to be, the phenomenal dimension however focussing on the operations and the products created. This could get accomplished only by that very type of operation itself. These operations are implemented onto the “animal condition” whatever that might stand for, at least referring to the condition in which that type of operations – mediated manipulation and the application of stimuli of second order – are absent. By this very act it is an instantiation of exactly that what has been described. It exposes itself as an action and unfolds itself as the product.

It deserves to be stressed once more; this disquisition is not at all meant as a form of critique. It could not be because it precisely exposes and expresses that what is underpinning the human condition, in a gigantic burst covers all what is touching the sensitivities into a particular meaningful guise making use of displacements as described.

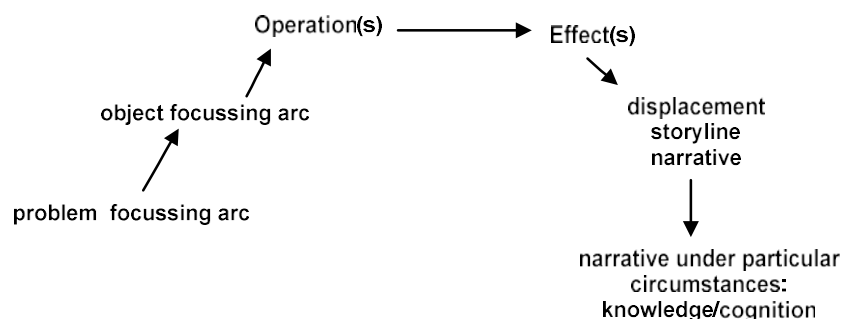
If there is a shadow of critique then it is only about the dimension of deep anthropomorphizing bringing forth effects becoming taken for what is called reality. Even the latter term only has meaning from within the mentioned human frame of reference.

### General conclusion

This contribution is somewhat different from all previous. These aimed explaining how workings could be described in terms of operations. It was more a sharing of an insight. The present text wants to pinpoint the essential characteristics of what is commonly called the human condition not in the usual sense of the totality of experiences but as the exposition of these characteristics making the difference compared to other animals, the most akin in particular. The conclusion is evident: what has been reported is not present in other animals.

The approach is action theoretical, encompassing instrumentalism and operationalism. Instrumentalism holds that the very first motive is not finding truth but negotiating the Umwelt in order to survive. Operationalism in turn stressed that these efforts can be described in terms of operations. Activity theory as the umbrella term holds that all this occurs in the form of actions in principle executed in the public arena.

The contribution took the form of two essays in accordance to the simple scheme of an operation producing an effect.





The Core as the first essay focuses the structure taking the form of a particular stance in relation to what is present ready to be manipulated. It not only lays bare the structure of the stance but also explains that this "arc" can be recognized on different levels, the anthropogenic in the first place but also in the particular Western way of thinking.

The second essay focuses on the effect in particular how it is getting experienced and what the consequence of that experience is on further behaviour, broader negotiation of the Umwelt.

Here too different windows are opened. The first is about the ubiquitous presence of the human view on whatever happening in the world even if it has nothing to do with humans at all. It was made clear that the gaze is in an absolute sense anthropomorphized. The second part focuses on the subject of explanation and the central role of projection in this. The third at last looks the problem straight in the eye: what is human knowledge actually? Taking the preconditions serious it cannot be else then a set of displacements in space and time selected and organized along the line of the criterion defining what has to be counted as knowledge and that then further projected onto the environment. Not a just so realisation but with a function: interpreting the environment.

The bottom line is that it is all about interpretation of the world from out a particular stance: an object or more precisely a problem focussing arc. That might well be the most accurate description of the human condition.



# Realizing human cognition in the cross-section of life

*A radical constructivist and action theoretical approach*

## Abstract

Cognitive possibilities are often seen as sprouting from abilities. Furthermore behaviour is getting understood as being rendered by events in a past long gone, but fired up by veiled stimuli in the present. In this contribution the focus will be directed on what is happening in the present moment of time and location. It is actually the only instance an organism exists in. From out this focus the question arises into the operations supporting if not bringing forth the cognitive possibilities mentioned. What operations for instance are needed in order to realize thinking about tomorrow or recalling an event from the past? This already shows the action theoretical approach.

In the contribution to follow three cognitive skills and the effects experienced will be discussed: displacement in space and time or self initiated imagination, being able to gauge the mind of another person and being able not only to reflect but in particular to realize a condition of reflexion. The availability of an object pattern within the framework of mediated manipulation will provide the stepping stone to the mentioned skills.

This contribution comes in three parts. Explaining the aim provides the stepping stone. Elements making up the background making further explanation understandable will be offered under "Perspectives". Further the operations supporting if not allowing self initiated imagination, theory of mind and the ability to reflect on oneself will be discussed. A critical note on the concept of the feature of "an open end or an apparent endless creativity" will round up.

## The aim

Comparing the "tools" used by apes and these by early humans inspired the formulation of a hypothesis present in "The Forgotten Transition".<sup>326</sup> The features thereby summed up provide a stepping stone into the realisation of new abilities or rather, abilities not observable in other animals in particular those most akin. Later publications such as "Objectification as linchpin" and "Beyond the material engagement theory" focus on the trajectory departing from the condition the "human" shared with the species most akin into the realisation of abilities typical for that human. The mentioned contributions focus the process of development, the coming into being.

The present text discusses the same themes but takes another vantage point.

In mainstream thinking the brain seems like a kind of Aladdin's lamp. From the workings of the neural tissue escape abilities transcending the understanding. Take the version offered by Crick and Koch for

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<sup>326</sup> Strictly spoken, making reference of "early humans" is a simplification which will not satisfy paleoanthropologists but does in the actual context.

instance. They suggest that in the brain an oscillation of 40Hz occurs supporting even promoting the origination of consciousness. Suggestions like this often draw the attention to the fact that the human brain diverges from that of other animals in respect of volume, the density of neural tissue and the organization of dedicated clusters. That is then taken to be the source of all kinds of abilities and features only present in the human. That conviction is often accompanied by another already present earlier in historical times. Galileo living in the transition from the 16<sup>th</sup> into the 17<sup>th</sup> century already stressed the importance of the workings of the smallest of constituents active in the deepest of dimensions. Thomas Willis a medic living in the 17<sup>th</sup> century, in turn redirects the attention onto the workings of the brains instead of other organs such as the heart. This fuses into a depiction still dominant to this day: the workings of the smallest of constituents present in the brain tissue. But also other representations gain importance. Galileo's suggestion takes place in a spatial frame: the smallest in the depth. But psychological points of view gaining importance, focus on a time frame, in particular by looking for origins in a past long gone seemingly forgotten.

All these are examples of storylines sustaining if not determining the understanding in a dominant way. It renders a simple, maybe somewhat a caricature: while origins lying in a past exert influence, the brain is the node raising mood and behaviour in the actual moment of time.

The present contribution focuses on the same moment: the human in his factual existence testifying of skills and competences. But the attention will not get directed on origins in times past, neither to the brain as the source from which abilities emerge. The focus will be on action in the public arena open to observation for all present.<sup>327</sup>

This begs the question: what exactly does the human perform in the actual slice of time bringing forth particular abilities and experiences?

This approach justifies the qualification "cross-section" mentioned in the title. It will all be about what is done here and now from an action theoretical point of view as an alternative for the brain-centrism characterising main stream thinking.

## **The perspective**

Any exposition is finding development from a particular point of view. The traditional approach as well as the more recent cognitive psychology, aims to bring forth a representation depicting reality as truthful as possible.<sup>328</sup> Inspired by Hume Kant convincingly explains that every perception only depicts the way the world appears to the observer whereby the input is getting organized by the structures imposed by the mind. There is no need for a philosopher to reach that conclusion. No one will contest the idea that a product is determined by the instance or contraption bringing it forth. A barrel filled with grapes will not conjure up a coffee grinder. Following the same line of thinking it will be clear that the world of the butterfly will be different from the world of the fish and the latter in turn of that experienced by the

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<sup>327</sup> It should be noted that other approaches too focus on the observable as behaviourism for instance neglecting psychic mood, the famous turbulences in the black box. System theory too falls back on the intersection in which individuals become considered to be active parts in the support of a larger system.

<sup>328</sup> Referring to Watzlawick (1984:15)

human. There is no reason convincing enough to assume some species being able to transcend this kind of embodied determination.

In short, any form perceived or broader 'lived', is a form brought forth by a particular type of body. Narrowed down to the dimension of cognition, any perspective taken comes from assumptions, sometimes explicit but more than often concealed.

Therefore the first part of this text will be dedicated to clarifying the assumptions taken. It is not only a matter of transparency but it will also help to understand points of view expressed.

This type of screening will consist of three steps, each dealing with more than one theme.

The first step refers to initial circumstances the human must have shared with species most akin, anatomic and physiologic changes which for this explanation will not always be relevant discussed and understood against a phylogenetic and an ontogenetic background.<sup>329</sup>

The second step will elaborate on the character of elements of knowledge. The condition of being and the way it appears or shows itself will become discussed. The presence of virtual objects in thinking will receive attention. Also the character of concepts will be a theme focussing on the difference between variants which could be called authentic and others arising from historical identifiable circumstances. The way the term "ability" has to be understood will also be considered. This part will be rounded up by some remarks on the difference between naive realism and radical constructivism.

The third step focuses on the arena in which the action is executed. The whole will find completion with a question about the function of the brain: is it considered to be a fountain from which abilities gush out or is a general node of which parts over time have specialised into dedicated functions?

## **A. Circumstances**

### ***Remarks to "the initial condition"***

Recall that with the latter is meant these conditions the species which in the end would become human might have shared with other species most akin. What would have been the nature of that? In a way the answer has been given already when referring to biological dynamic, more precisely the condition of the primary motivation driving to actions needed in order to maintain life in the broadest of senses stretching from feeding to finding a partner in order to procreate. This dynamic, this type of never ending alertness translates into a constant tendency to check and master the relation to the fluctuations present in the environment, as one concept 'relation regulatory behaviour'.

Observe a bird. It leaves the branch of the tree flying to the garden bottom and pecks. The little animal apparently "sees" events which escapes us humans provided with the bodily abilities we have. The bird must have horizon of perception, not to speak of a horizon of existence, different from us, from other species altogether. But there is more. Engaged in the process observed it constantly looks up, showing a

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<sup>329</sup> So far more than forty features of difference have been listed between the perceptive cognitive organization of the initial condition and that of the modern human. Cf Supplement to The Forgotten Transition, chapters 1 & 2.

continuous condition of vigilance, a condition we as Western people are no longer familiar with.<sup>330</sup> The relation regulatory stance is the rule, constantly looking for food, constantly on the lookout for eventual disturbances. This is actually the basic tension characterizing any form of life, a factor to keep in mind.

The type of and the abilities proper to the body is second factor deserving attention. A body is not something independent of the environment it might seemingly accidentally find itself in. A particular type of body is a function of the environment in the sense that this environment provides the basic condition for the possibility to be existent at all.<sup>331</sup> Consider the presence of oxygen without which not one single breath-taking organism ever could exist, while oxygen is actually a waste product of the process of photo-genesis. That, might be observed, is a process on an enormous scale. But there are also others, on a lower scale. Take grass for instance coming into being around 60.000.000 years ago. Its very existence provoked the whole heard of grazers coming into being. Spores provide another example. While these are getting dispersed by the wind flowers appear relatively recent on the geological time scale and metaphorically spoken seduce insects to distribute pollen.<sup>332</sup>

The body or rather the whole of an organism is a derivate originated within the confinement of chaos present. Its particular form is only a variation within the mentioned confinements. There are a lot of different grazers and myriad types of insects each connecting in its own way with particular features of flowers.

Precisely the form brought forth by the process of evolution mentioned provides a particular way to cope with the burdens of the environmental fluctuations.

So far for a brief and maybe all too simple explanation of the basic condition: primary motivation as a basic drive, the relation regulatory tension and behaviour, the abilities provided by the form or the body of the organism.

These are all quite trivial data. But precisely by being trivial they escape the attention. Moreover the influence of the biblical revelation cannot be underestimated. Man is an exceptional creature brought forth by the divine instance in his own image and whereby all what further is present in nature is destined for human profit. Man is the privileged caretaker for the divine creation. Even the not religious share silently

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<sup>330</sup> The occurrence of an extremely long period of peace makes a lot of West-European people consider this to be a natural condition while overlooking historical times it is rather exceptional.

<sup>331</sup> A similar argumentation can be found in the "Tractatus" by Wittgenstein. It already starts with the very onset. 1. The world is all what is the case (...) 1.1. The world is the totality of facts not of things. (...) In a representation like this is not a set of things but an intertwinement of events in which an event – the fact – is a function of the conditions and circumstances. For Wittgenstein it is all about meaning on the level of language. In the context of the present text it is about biology. The living organism is not something which can be considered detached from its environment encompassing it. The environment determines the condition of becoming alive in the first place, further defines the possible form an organism can take. In that sense bird, beetle and man as possibilities realized from out one basic condition. Taken this way man is not different to the beetle only a different possibility. The difference lies in the fact that the human is the expression by another form and by this provided with different means to negotiate the environment. The seemingly inattentiveness by which human tend to trample beetles and the like surprises. It makes it seem humans are of a different order altogether while humans actually are only instantiations rising from the same pool of possible forms. The Jains by cleaning the path before even trying to put down a foot, however their conviction and motivation is different, testify of the insight that all what is alive originates from the same pool.

<sup>332</sup> Spores around 455 while flowers around 130 million years ago.

that man is exceptional, not only in the sense of able to exceptional realisations but also in the sense of belonging to very distinct order.

The aim of the present explanation is only to sharpen the awareness of the condition described, of the fact that no creature can escapes these conditions, man being no exception. It is the definite context wherein man as a species - all species for that matter - has to exist. There is no escape to it.

All what seems to transcend this basic condition has to originate from it and come to development within the confinements of it.<sup>333</sup> Man considering himself an apprentice wizard able to thrive outside of these borders errs.

Sceptics rush to mention high technological achievements such as the use of electromagnetic waves or travelling to Mars. But these developments too cannot be realized from any other position than from within the confinements mentioned. Participate in a board meeting we might behave extremely polite, engaging in the dance of being well mannered or strictly disciplined like automated soldiers in a parade, all in the end remain primary motivated investigating any miniscule sign of behaviour which might be relevant for our own well being. On the level of relation regulation there is no moment of idleness.

The same is the case for what concerns embodiment as determining factor. It is not because the human is familiar with his abilities that these can be considered to be absolute and timeless, silently convinced that this has always been the case. It has indeed been the case within the existence of the human as a species, but there has also been a time the species could not yet be recognized fully as being human with a body exposing the form and the abilities it shows today. There has been a phase in which being fully bipedal was not the case yet. A time the ancestor moved around on the floor making use of all fours or sometimes on the hind limbs and alternately lived in the trees like Lucy did. There has been a time that the ancestor moved around nearly exclusively in the treetops.<sup>334</sup>

Given the conditions mentioned the new abilities must have arisen from the interplay between body and environment, the ability to express verbally and to imagine how to organise manipulations in the future, must have been originated so to speak under the pressure of the changes mentioned.<sup>335</sup> Unless becomes accepted that all these abilities emerge from the workings of the brain.

But that is not the path taken here in which the focus is directed on what is observable in the public arena.

This approach does not require a far reaching exercise in fantasy. Animals in relation to the immediate surroundings, actually the only ones which they experience, do not contemplate the circumstances. They act guided by what is at hand. There is no inner instance at work having to answer the inner workings of other creatures. Only what is prone to perception in the arena of public behaviour counts.

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<sup>333</sup> Titus Lucretius Carus: that which is born *creates* the use...

<sup>334</sup> Cf East side story, by Coppens.

<sup>335</sup> Taken to its extreme consequence this drives to a radical constructivist point of view. In that the – plausible – idea that man is the producer of knowledge. According to Ernst von Glaserfeld radical constructivism is radical because it breaks with the usual held beliefs and it develops a theory whereby knowledge does not reflect an objective ontological reality. (Mentioned in Watzlawick, author and editor; 1984; *The Invention of Reality*. New York, W.W. Norton. P. 24. Observe that Piaget's approach also endorsed constructivism.

That principle can be recognized in the so called “modern synthesis”. Selection takes place on the level of the phenotype.<sup>336</sup> Changes in the form of the body or behaviour regardless the cause being genetic or provoked by external factors, they all have to prove survival value in life as a practice.

Obsessed by workings attributed to inner workings, a version with historical roots, the fact that life unfolds in the public scene is getting overlooked.

The initial condition the hominid which in the end would become human provides the stepping stone. But for the hominid line as will be explained further a particular development occurred. However knowledge and behaviour will be at the core it will be stressed that these do not exist in splendid isolation. Any organism is part of a context. Changes in the latter will be of influence on the organism involved. This will be discussed in the following part.

### *Changes do not occur in thin air*

Bipedal locomotion is without any doubt a sign of an ongoing change. Different hypothesis have been suggested in relation to what might have caused it. The coming into being of the isthmus closing the passage between North and South America around five million years ago is one of the theories. Blocking the stream between the Pacific and the Atlantic Ocean would have influenced the climate in parts of Africa in turn responsible for changes in the vegetation.<sup>337</sup> MacWhinney (in Givon, 2002:233) suggests that tectonic tension causing the Rift Valley played an important role. This option is shared by the paleoanthropologist Yves Coppens in what he coins “The East Side Story”. He explains that hominids on either side of the Rift would have developed different life styles. On the one side the hominids remained occupying the treetops, while on the other they became confronted with an advancing savannah. In the latter condition the hominids would have profited from an upright posture hence bipedal gait. All the options mentioned have defenders and opponents, but whatever the option chosen it is plausible to accept that changes in the ecology pushed into a different lifestyle. Considered from a distance a pattern of development comes to light.

The pressure of the changing circumstances provoked a change in life style encompassing bipedalism.<sup>338</sup> The latter changed the perspective on the immediate surroundings. A body resting on all fours has another field of vision than the same body standing upright promoting a view in the distance ahead. But maybe this presentation has to be reversed: the need to look over the low vegetation forced these

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<sup>336</sup> Huxley, J.S. (1942); Mayr, E. (1982)

<sup>337</sup> Aaron A’dea et al. 2016. Formation of the isthmus of Panama. <https://advances.sciencemag.org>. 2016; 2:e1600883

<sup>338</sup> For recent research, see Killeen & Glenberg (2010) quoting “Changing bodily abilities altered attentional processes and changed the infants interpretation of the world from one dominated by movements to one dominated by goal directed action” (p.72) An important conclusion as a) it refers to “Changing the body or its relation the environment changes cognition and behaviour” (p.74) and b) this is on par with the idea of a transition from the world one to world two as suggested in *The Forgotten Transition* (Gilbert, 2018). The author also refers to other research such as that of Somerville, Woodward & Needham (2005) also finding that changes in manual skill affect attention (quite relevant for my suggestion on objectification as a perceptual cognitive reorganization. Killeen, P.R. & Glenberg; A.M. Resituating Cognition. *Comparative Cognition and Behaviour Reviews*. Vol. 4 pp. 66-85.



creatures to adopt an erect posture.<sup>339</sup> Of importance is that in this change the forelimbs and the hands lost the function of support in the gait of knuckle-walking. The hands did not become superfluous as besides a role in moving over the forest floor they also were skilled in grasping branches as part of a life in treetops, holding the offspring and picking fruits. These skills already present seemed to open room allowing further exercise. This has not to be understood in the sense of goal oriented drive – bottom up – but as an opportunity happening, ready at hand, in a way inviting to be exploited. The situation was in a way affordant. This development did not have to happen, it was contingent. The *Phalangeridea* ancestor of the kangaroo lived in the tree tops and made use of all fours. Here too a development in the direction of bipedalism took place but it did not promote the further use of forelimbs and hands, on the contrary, they receded.

Some apes show skilful way of grasping and manipulation. Nodules are used to support action such as in the case of chimpanzees handling hammer and anvil in the act of breaking the hard shell of nuts. The bonobo on the other hand does not engage in that type of manipulation.<sup>340</sup>

In the long end the execution of particular types of manipulation results into adaptations.<sup>341</sup> Marzke (1992) studied changes in the function of the hand in particular the role of the thumb. Tocheri et al. (2008) published on the development of the hand since the last common ancestor (LCA) of the great ape and the human. But the observations formulated by Almécija and Sherwood in particular draw the attention (2017).<sup>342</sup> They explain that the hand of the chimp developed further in respect of a life to an important degree taking place in the trees, while the hand the hominine which would evolve into the human kept an older form and from there on developed into a form of its own.

But whatever the trajectories taken the pressure exerted by changes on the level of ecology gave rise to changes in behaviour and in turn promoted changes on the level of morphology.<sup>343</sup> The effect described by J.M. Baldwin in 1896 plays. Changes in the ecological niche so he pointed out force behaviour to change too which in the end is becoming translated into a Darwinian selection and in this way to changes on the scale of evolution.

This observation is of importance because behaviour occurring in the public arena is the stepping stone and it is precisely that scene of action which lies at the heart of the present approach. Moreover maybe superfluous, two mechanisms driving evolution are getting exposed. On the one hand mistakes in copying on the level of genetics can result in changes in morphology, changes which have to prove viability in real life situations.<sup>344</sup> On the other hand it makes clear that behaviour originating by changes in the environment can exert pressure on the mechanism of selection.

The conviction of the importance of the hands is not new.

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<sup>339</sup> However elephant grass grows quite high while *Australopitici* like Lucy were small.

<sup>340</sup> Cf Bickerton, D. 2009. Adam's tongue.

<sup>341</sup> This idea is far reaching. Noble and Davidson observe that execution in the long run recruits structures in the brain rather than that the practice would be dictated by the brain. (1996:226) Similar ideas can be found in Merzenich et al. (1983) and in Rossini et al. (1994).

<sup>342</sup> In Kaas, 2017:300.

<sup>343</sup> This could actually be formulated in a present tense as the changes are still ongoing.

<sup>344</sup> As explained by Hugo de Vries in "Die mutationstheorie" (1901). He was also the scholar who brought the findings published earlier by Mendel but lost in oblivion under the attention.

In the 5<sup>th</sup> century BCE Anaxagoras concluded that man was intelligent by the use of hands.<sup>345</sup> A century later, Aristotle observed that hands promoted thinking and that they were the instrument pre-eminently because they allowed the making of tools. Much later again, in the 16<sup>th</sup> century, a French poet Pierre de Ronsard argued that precisely the hands made the species human. In that same century Giordano Bruno attributed the grandeur of man to the hands not only because they allowed the making of tools as Aristotle already observed but also they brought forth knowledge. Rounding up these illustrations, the term *chirurgia* – whence “surgeon” – originates from the observation of the abilities of the hands, an observation laying the foundation for the systematised study of anatomy.<sup>346</sup>

In an earlier publication I have stressed the importance of the abilities and the system going with handling, this as the primordial condition for the type of knowledge typical for the human.<sup>347</sup>

There is yet another change of importance in the region of the breast and the muscles involved in breathe. That fits the introduction of speech in need for a constant flow of air in order to produce a long sequence of sounds in an orderly manner. The position taken by the cognitive scientist Philip Lieberman is subject of dispute.<sup>348</sup> He suggests that in the evolution changes occurred in the position of the larynx thus facilitating the production of sounds. The paleoanthropologist L.C. Aiello (1996) assumes that lowering of the larynx followed bipedalism in time.

For us it is only of importance to point out that changes had taken place. What has been mentioned are all examples of changes on the level of morphology, adaptations at least potentially present in modern newborns. But not all adaptations are of relevance for the features considered human subject for further discussion.<sup>349</sup>

### ***Relevant adaptations***

The upright position changed the position of the intestines. In locomotion supported by all fours the guts are supported by the peritoneum and finally by the skin. Giving birth, the foetus is getting squeezed out in a more or less straight direction facilitated by the form of the pelvis. These are features which have undergone profound anatomical changes. The laborious process of giving birth testifies that not all adaptations necessarily should be considered advantageous but rather a new type of cost. Walking

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<sup>345</sup> Many centuries later Leonardo da Vinci claimed the contrary: because man was clever he made far reaching use of his hands.

<sup>346</sup> This, against the background of mechanistic model inspired by Galileo in which cause and effect lie at the core. This has to be considered groundbreaking because the human body was considered a gift from God hence untouchable. With the practice mentioned investigation as if it was a mechanic took place. Concerning the term *chirurgia*, it goes back on the Greek “*kheirourgia*” with “*kheir*” or hand as root and *ergon* referring to an action performed.

<sup>347</sup> Gilbert, J.F.R. *To the bare bone, the role of the hand for human cognition*. Supplement to *The Forgotten Transition*, chapter 14.

<sup>348</sup> He is a cognitive scientist affiliated to the University of Brown, Rhode Island, not to be confused with Alvin Lieberman who developed a theory of speech based on motor abilities, considered language to be native thereby moving in the direction taken by Chomsky (the latter not in the version of the minimal program).

<sup>349</sup> Strictly spoken the difficulties in giving birth are also typical for the human species, but it will be evident that these are not the features meant here.

upright led to changes to the pelvis whereby the foetus from then on has to realize a tilt because the opening is no longer positioned in a straight line with the womb.

Walking upright also changed the form of the foot. The big toe showing a sideways position similar to the thumb in order to facilitate the grasping of branches gradually repositioned in line with the other toes. The research directed by Campbell Rolian of the University of Calgary testified that this had consequences for the development of the hand.<sup>350</sup> Based on precise measurements and mathematical models the researchers conclude that changes to the foot coevolved with changes of the hand. In what sense this was of importance for the already existing technique of grasping is not quite clear.

Summarizing, not all adaptations of the morphology of the body are conditions promoting typical human competences like the seemingly unavoidable perspective of aboutness. Bipedalism however must have been of influence on the freeing of hands by this opening a range of possibilities to further playful experimentation on the level of manipulation in turn the stepping stone for new forms of cognition based on mediated manipulation.

There are different ways of ordering adaptations, sequencing them as they developed over time for one, the so called phylogenies. But it is also possible to distinguish authentic from alleged adaptations and furthermore from phylogeny to ontogeny to execution.

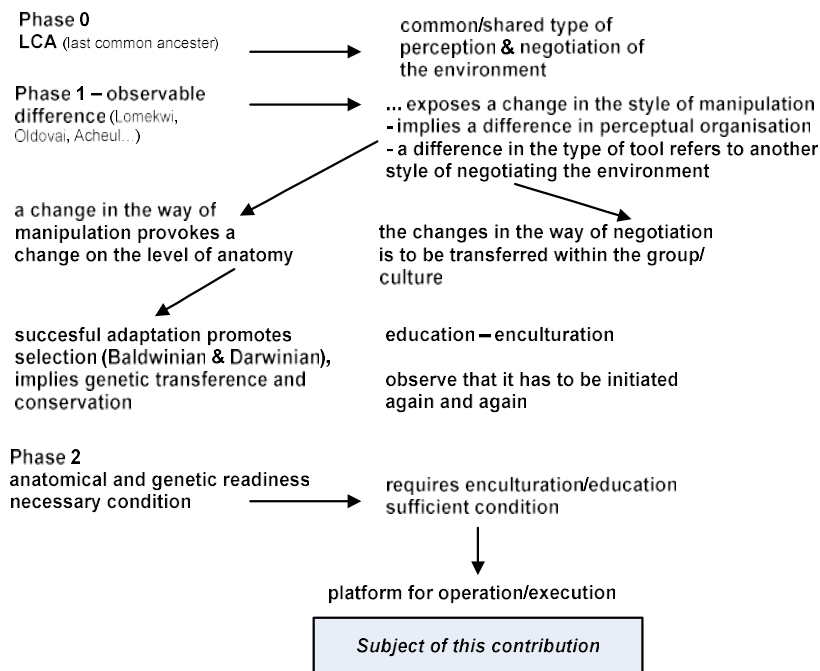
#### *Development and adaptation, schematic presentation*

Adaptation presupposes development. For the present subject this can be presented as a change following three tracks: ecological circumstances, biological and technical characteristics. This distinction is artificial and only serves explanation.

The ecological dimension providing the circumstances exerting pressure in the direction of change will be left out of the discussion because however causal it does not add to the insight on the development of cognition.

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<sup>350</sup> Rolian et al. 2010. The co-evolution of hand and feet. *Evolution* 64:6; 1558-1568.



## Phase 0

This covers the period between seven to six million of years back, the point where great apes and the branch which in the end would produce the human diverts. There is at this point in time no reason whatsoever to assume a difference in cognitive abilities. Motives giving direction to behaviour, moods, forms of imagination and the organisation of perceptual input must have been similar. This marks the initial condition.<sup>351</sup>

## Phase 1

Stone implements showing signs of adaptation testify that some hominines engaged in a different manner of negotiating the Umwelt.<sup>352</sup> The earliest, found in Lomekwi date from 3.300.000 years back in time. These become followed by the more commonly known Olduvai types date around 2.500.000. There is some discussion over the fact if these findings are really special. Some, T. Wynn for example, does not discern features testifying a decisive distinction. But on the Acheul types, with 1.600.000 years nearly a million years younger, there can no longer be any form of doubt. These types do not appear in use by any other species. The form appears in many different places and in some in large numbers. This feature

<sup>351</sup> This has been discussed at large in The Forgotten Transition, 2018; chapter 2 sub 1.1.1. and more elaborate in The Supplement, chapters 1 & 2.

<sup>352</sup> Hominines refers to humanlike species encompassing four large families: australopithecine, paranthropus, ardipithecus and the homo group. The term Umwelt had been introduced by the German biologist Jacob von Uexküll referring to that volume in the environment defined by the reach of the senses and the motor abilities. The recognition of the nodules showing sign of adaptation to be tools is quite recent. It started with the collection of Jacques Boucher de Crèvecœur de Perthes around the year 1826, but the idea and recognition of being stone tools dating from the paleolithicum only got accepted in 1859.

which is observable in the public arena shows standardization. But that what is observable to all must also have a dimension which is not. The way of manipulation going with perceptive cognitive processes bringing forth that observable type of artefact must have been subject to changes too. More generally spoken, there must have been a change in the way the environment got negotiated. This conclusion is unavoidable.

Noble and Davidson suggesting that practices recuperate structures in the neural tissue have already been mentioned. This idea can be taken further. A sustained practice will over time change the shape of the body. This is a trivial fact easy to observe directly in the world of sportsman.

For the actual context this idea suggests a global development. Changes in ecology promote a change in posture in turn facilitating a change in behaviour in the long end translating in changes in the form of the foot, the legs, the pelvis, the spinal column, even a shift in the position of the foramen.<sup>353</sup> But that is only one dimension. The other is that the behaviour underlying these changes is getting transferred to conspecifics. At this point there is something remarkable needing to be stressed. While changes in anatomy follow from a process of natural selection in the end translated in genetic makeup providing a predisposition, the practice by which it all starts has to be executed and transferred again and again. It does not come by itself. The changes in anatomy are the necessary condition. But the effective execution on the other hand only becomes possible after a process of enculturation or education. That is the sufficient condition which has to find implementation on the lifestyle of every new member of the group.<sup>354</sup>

## Phase 2

The above allows to mention a development following two tracks. On the one hand there is the biological resulting in a predisposition of readiness bearing the character of a necessary condition, a cultural development which has to be implemented again and again in order to make an ability to become a real practicality.<sup>355</sup> The latter bears the character of a sufficient condition. Example: without the changes of the hand following from continuous practice the human hand would never have been able to develop into a range of different forms of grasping.<sup>356</sup>

All this is of course a simplification but it provides an indication about the development having taken place.

## Phase 3

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<sup>353</sup> This is the opening at the back of the skull where the spinal cord and vertebrae enter. In the knuckle-walking ape leaning forward the foramen is positioned in an angle of about 135 degrees to the backside. In the human it is pointing straight downwards (180°) allowing the vertical uprising spinal column entering the skull. This is actually one of the features allowing to recognize bipedalism in fossil findings.

<sup>354</sup> Who is familiar with the concept of "Lebensform" introduced by Wittgenstein, this is the imposition of the Lebensform at the lowest level thinkable.

<sup>355</sup> Readiness is positioned on the side of the actor and refers to be prepared to engage in some action while *Zuhandenheit* (Heidegger) or affordance (Gibson) is the condition of the situation "inviting" some action. Take a pen (Heidegger) inviting to engage in writing.

<sup>356</sup> Reference to the already given footnote on the work of Elisabeth Marzke.

The phenotype or the morphology is present while the social context took care of the effective execution. That occurs in what could be discerned as the third phase resulting into effects said to be unique to the human. For instance with the infrastructure available how can speech be produced? How can speech be instrumental to communication? How is the human able to reflect upon some subject, a step further to reflect upon oneself? Questions of this type lay at the heart of this contribution. The focus will not be directed on potencies ready when rubbed to bring forth all kinds of seemingly magical realisations, neither on accidents happened in a past long gone but allegedly causing effects in the actuality. The focus will be directed on the execution of behaviour taking place in the crossing of the actual moment in the arena which lying open for all to see.

Summarized:

Phase 0: no difference on the level of cognition

Phase 1: tools unearthed indicate changes in behaviour, in negotiating the Umwelt

Phase 2: anatomic readiness as necessary condition provides the breeding ground allowing to bring abilities to expression through practice; these are the two sides of a coin

Phase 3: the execution itself, the core of this exposition

The paleoanthropologist Yves Coppens observes that the biological evolution has been dominant over a period of 2.300.000 years and that the technical development only took over since 100.000 years. Without reservation it might be added that the last 200 years in particular testify of an exponential change.

### *From phylo- to ontogenesis and to execution*

There is yet another way to make a distinction.

#### 1. Phylogenetic

This refers to phenotypic or phenomenal appearances testifying of readiness which occurred by the pressure exerted by ecologic changes. It is about the transition from an incorporated operation sustained by the use of means in the direction of a technical activity apparently detached from the body.<sup>357</sup> This resulted into another way of existence, another way to negotiate the Umwelt. Objectification and taking a perspective of distance allowing consideration are features characterizing the human way of being, instantiating the human condition.

#### 2. Ontogenetic

Every newborn is in a condition of readiness. He disposes of anatomic adaptations brought to expression by education, broader 'enculturation'. On the one hand there is the availability of the form and motor capacities and on the other the need for external intervention to allow executing the acts necessary to express the capacities mentioned.

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<sup>357</sup> If a tool seems to be incorporated it feels like being part of the body. The term got introduced by the German biologist Helmut Köhler. The hammer-stone used by a chimpanzee is not an instrument or a tool standing on its own. It is part of the dynamic of grasping, holding and hammering. Think of the act of writing becoming an automatic activity. One does not hold a pen in isolation in order to produce graphemes, one writes. The pen became incorporated.

### 3. The execution

The final question is: given the acquired and learned abilities what are the operations to be executed in order to render the type of experience esteemed to be typical for the human?

## B. Explaining and understanding

### *Being and the way it is getting exposed*

What is the very first moment in experience like? Waking up and opening the eyes finding the world there in front immediately cloaked in a never ending stream of comment. That is the manifestation of the so called human condition.

A world showing itself *over there* - expressing a distance - as a scene, actually as an object because it is the object given a name, a type of manipulation. It means that the scene takes the form of an object prone to manipulation. The tree perceived is situated there on a distance. It is some thing, a scene attributed a name. It can become an object of representation: what would it be if there was no tree over there, or if the tree was higher or planted in another location... This might seem to be ideal proceedings; in the end will become clear they are not.<sup>358</sup>

This simple scene composed by perception, naming and representing is based on the execution of action, of manipulation.

More generally, there is biology, there are tensions, moods and motives experienced and there is the activity of perception of some thing – there in front – accompanied by description. We perceive some thing *over there* at the same time naming and describing it. This can only be presented a double layered – language forces it that form – however it seems only one gesture, one move. It suggests a being alive as condition *and* the naming or interpretation of it. It suggests a double layering. But think for a moment of a vase. It cannot exist without the matter of which it is made but neither without the form characterizing it. In the same line of thought: there is being and the interpretation of it. One cannot be thought without the other.

The distinction only exists by and in the analytic way of thinking.

Because being and naming-describing-interpretation is the only mode man experiences in a direct and unavoidable way, it may rightfully be coined ‘a lived experience’. It deserves extra stress: this is the only condition experienced. Following Husserl: the world shows itself in first instance and exclusively in consciousness. It is a condition impossible to escape.<sup>359</sup>

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<sup>358</sup> “Ideal” in the sense taken by Plato mentioning “ideas”.

<sup>359</sup> This is an important observation in regard to expectations provoked by some gurus promoting particular meditative techniques. As a human being, by this referring to the characteristic of irreversibility, it is impossible to escape the human condition into a kind of so called enlightenment. The latter thought is quite ironically itself a product of the human condition. (On irreversibility, *The Forgotten Transition*, chapter 2.I.1.3)

Thought can neither be avoided. But these are only the products of the inescapable act of thinking. However the content of thought comes down to the manipulation of imaginative contents and these can be interchanged. Being conscious cannot be avoided however the content is prone to change.<sup>360</sup>

An example of a content as mentioned is the idea about the initial situation shared by great apes akin and the line which would in the end bring forth the human species. Such content can only be thought, only be presented in imagination. But on closer inspection doing this is a weird practice coming down to imagine what it would be if man was not able to imagine – as this is the case in that initial situation. Precisely the latter case is the stepping stone leading to the final result that is occurring in the ability to present some content in the imagination. It comes down to imagine what it would have been like to lack that ability. Playing with words it comes down to imagine the inability to imagine and from this as starting position to imagine what it is like to bring forth an imaginative content.

In summary there is the mode of being and the interpretation of that condition, being and the way that can be explained or understood. However both collapse into one being, always manifests in a particular way allowing the observer able to consider to make a distinction between for instance a condition of homeostasis being disturbed and the way that is getting explained. While being is the motor the way of interpreting or understanding it will guide behaviour according to the way the understanding frames the instance of being.

This might all seem somewhat vague. The further explanations will clarify the perspective presented.

### *Virtual objects*

Franz Brentano had two important students. One, Husserl focussed on the phenomenon and became well known. The other, Von Meinong, did not share an equal public attention. In his publication of 1904 “Über Gegenstandstheorie”, he discusses the statute or the character of the objects referred to. He distinguishes for instance “the kitchen table takes a lot of room” from “mountains of gold are getting promised”. The statute on the level of the ontology is that the kitchen table exists in a tangible form; it can be perceived and handled which is not possible with “mountains of gold”. This easy to understand distinction paves the way to further explanation.

If the question if golden mountains really exist would be answered in all seriousness by someone then that would probably raise amazement. Who for God’s sake could take that question seriously? But once outside that context in the sphere of common parlance expressions like these (golden mountains) seem to get accepted as things really existing in the world.

Reference is getting made to the mental, to duality, the mind and in one and the same move also the body in exactly the same way as is spoken about banknotes in the wallet, the bicycle stalled, the dog on the other side of the road. On the level of common parlance it does not hinder. But in a discussion between scholars trying to get grip on phenomena such as mental capabilities then the distinction and the awareness that it concerns virtual units is absolutely necessary.

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<sup>360</sup> Man is doomed to bring forth storylines; he is to a degree free to adopt the story of his liking. “Free” has to be understood in a relative sense, this freedom is not absolute.



### *The concept of "concept"*

A concept is considered being a building block in the act of thinking. It is therefore not surprising that an extensive literature on the subject exists. The aim here is only to point to a remarkable characteristic.

Different points of view are possible. One is related to the framework of knowledge. According to scholastics, an orientation originating from the 12<sup>th</sup> century with branches until the 18<sup>th</sup>, reality could be understood in different ways. One group was convinced that particular units existed. Here was one tree and there another and further another again and so on. Features recognizable in all those particular trees allowed the attribution of a label and consequently distinction from the same type of label but referring to features recognizable in other particular things such as flowers. This group is known as the nominalists reflecting an interest in a classification of features rather than it would indicate what really was present in the world.<sup>361</sup> The realists as another group held a different opinion. Take Plato as illustration for this position. Ideas are the real thing; particulars present but a scant shadow of it.

There is yet another more recent approach following a more psychological track inspired by linguists. In that perception is organized along the lines unveiled by Gestalt psychology. On the lowest of levels the scheme of part-whole configuration organizes input into meaningful phenomena. When coining the word "car" for instance not a specific model or a specific function such as ambulance or fire truck is coming to mind, but a stylized pattern, something container like provided with wheels suggesting mobility. This pattern is known as a basic level category organizing perception.<sup>362</sup>

Nominalism, realism and basic level categories, which of these finds application in daily life? It will be obvious that in day to day circumstances no one considers if a perception is related to a particular instance (nominalism) or merely would be a shadow of an idea that occurs somewhere in the world (realism).<sup>363</sup> In real life situations the use of basic level categories seems to be more natural. This is a human, a pen, a car, an animal and so on. However these bear the character of general rather vague formulations, without hesitation they are taken as if these would stand for real tangible items. When pronouncing "there stands a human" this does not produce of hinting in the direction of a vague scheme but to some unity really existing.<sup>364</sup> This way of approaching the world is one of the most important building blocks in the understanding of the world.<sup>365</sup>

The importance of this part is to stress that the understanding of the world falls back to an important degree on schemes as sketched out which, it should get stressed, are indeed no more than schemes and not in any way tangible particulars.

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<sup>361</sup> There is a slightly different approach explaining that universals exist in the individual entities and that by abstraction they can be isolated. Cf conceptualism defended by Pierre Abelard (1079-1142)

<sup>362</sup> For an informative elaboration on this subject cf Lakoff, 1987, the first part in particular.

<sup>363</sup> It is important to realize that these options are situational and not absolute. At dinner a chemist will not ask for NaCl but for salt just as any other of his table companions would do, a quite different situation than he would do in a lab.

<sup>364</sup> An approach of that type is by Hobbes called "nunc stans", by Merleau-Ponty "la foi perceptive", "Urglaube" by Husserl sometimes also "Urdoxa" and by Gehlen "das Paradis von reinen Mittelbarkeit".

<sup>365</sup><sup>365</sup> It is tempting to attribute and restrict this practice to everyday circumstances but on closer inspection it occurs as well in the scientific community.

As a final remark concepts can be discerned on the basis of the statute obtained. On the one hand there is an essentialist perspective taking a concept as referring to something really existing, think of the concept of mind considered really to exist. On the other hand there is the approached coined instrumentalism. In that case the concept is no more than a label allowing a cluster of features to get discussed. In the latter case the concept “mind” merely is a label covering features or an experience not yet understood.

### *Abilities, source or application?*

Ability is yet another term more than often used without any form of reservation but which on closer inspection is quite problematic. It refers to the idea that humans possess of innate mental abilities however distributed over the population in different degrees. Some people are blessed with an exceptional ability to make music or practice math or it is sometimes said that someone is exceptionally apt in language, statements shrouded in a whiff of phrenology. That theory got introduced by Franz Gall in the transition from the 18<sup>th</sup> into the 19<sup>th</sup> century. Adepts claimed able to identify particular abilities through skilful palpation of the skull. It will not surprise that this theory evaporated in oblivion. Vagarious the suggestion remains that humans are provided with abilities as perception, memory, language, intuition and free will. Moreover in line with phrenology it is still accepted that some possess a better developed ability in a particular field than others.<sup>366</sup>

Leaving aside a discussion on heredity, what is actually going on?

An ability being innate falls outside the scope of observation and consequently is impossible to get discussed.<sup>367</sup> But other aspects are. One is about abilities being innate an idea already expressed by Aristotle. On closer inspection this is a cultural transferred view bearing the character of self-evidence. Another idea is about different handlings getting considered as one coherent cluster such as is the case with playing the piano. Grouping different perceptual scenes is a first step receiving further in the appreciation a far reaching meaning: the cluster is becoming considered as one single function: playing the piano. At this point a concept as discussed earlier becomes installed. The fact of importance is that the concept acquires and expresses a statute exceeding the factual act consisting in the execution of distinguishable manipulations. Playing the piano becomes more than a set of separate skills. A step further is the player being submitted to a PET-scan demonstrating a correlation between the act of playing the instrument and activities in particular brain regions. At this point often something weird takes place. While most of the neural researchers involved will when asked explicitly recognize that this phenomenon refers to a correlation, the expression used in common parlance will tend to suggest a causal relation. In short, it all starts with the observation of manipulations in the end getting interpreted as a function causally related to the workings of the brain.<sup>368</sup>

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<sup>366</sup> Thomas Reid, an 18th century philosopher, distinguished forty-three different abilities or competences. At the time philosophy of nature came down to what today is taken to be science.

<sup>367</sup> Referring to the research of John Lorber, paediatric at Sheffield University, on a brilliant student in math (IQ of 126). Cat-scanning however unveiled that the student in question nearly had no brain at all apart of a layer of 1 mm covering the top of the spinal cord.

<sup>368</sup> Playing the piano has been the example but it could as well have been about language.

“Working memory” as a concept provides another example. Publications quite cautiously speak in terms of “it appears that... it is not localized in a particular region... mentioning is made of an emergent property” (Buchsbaum, 2016).<sup>369</sup> “Emergent” should be stressed because it also refers to an effect suggested to be brought forth by the workings of the brain consequently bearing the character of a correlation. For matters of clarity the effects experienced and the workings of the brain always go together but this does not allow the conclusion that one is bringing forth the other. D’Esposito (2007) even goes so far in arguing that working memory cannot get considered to be one unity neither a dedicated function.<sup>370</sup> The model suggesting some instance like a working memory originates from a publication of Baddeley.<sup>371</sup> At this point a quote from Hawking in cooperation with Wlodimow becomes relevant. They accept a model coined dependent realism accompanied by a set of rules allowing to relate the said model to observations.<sup>372</sup> That is exactly what I have in mind: observations allow building a model.<sup>373</sup> The reference made to Hawking is not accidental as he is deemed to belong to the absolute top of theoretical science.<sup>374</sup> A similar pattern occurs in relation to the appreciation of language. According to Descartes it is an ability – an ability again - given by God allowing man to think rationally. But this begs the question: what exactly can be observed? It is about the human moving the region of the mouth and the hands. With the mouth sounds are produced provoking understanding and reaction in the other. It is often overlooked that this effect not only occurs in the other as recipient but also in the actor himself.<sup>375</sup> Language as a function is getting presented as a historical heritage; it is a gift from God and as such innate. This very idea got rephrased in a secular version by Chomsky in the middle of the previous century. Reacting onto a ruling behaviourism he drew the attention to what he called “the poverty of the stimulus”. He observed that children seemingly all too easy mastered language from this deducing the insight that a competence for language must have an innate basis. But here too observation of the operations could have contributed to clarification. Alas for decades the focus got directed on transformational generative grammar while at the same time the endeavour to discover neural correlates neither proved to be successful. Indeed Wernicke and Broca are neural regions involved in language but these do not bring forth the generative task. I have once read about a French linguist who taken by the hype around Chomsky’s ideas dedicated the whole of his career to this project, looking for something which in the end could not be found and in my opinion neither ever was. After all what is left of the whole idea in the Minimal Program presented in 2002 by Chomsky, Hauser and Fitch? The anthropologist Tim Ingold ponders the question – rather rhetorically – if the suggestion about the existence of such a competence is not following from an all too inward directed focus looking for an built-in competence for language, at least in the guise of a LAD (language acquisition device) a suggestion presented by the already mentioned Chomsky in the sixties of the past century? The assumption that some instance as “language” (really) exists does not allow to accept is as a natural

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<sup>369</sup> Bradley, R. Buchsbaum, in *Neurobiology of Language*, 69.4 The emergence of the concept of working memory.

<sup>370</sup> D’Esposito, M. 2007. From cognitive to neural models of working memory. *Phil. Trans. R. Soc.* 362, 761-772.

<sup>371</sup> A model proposed by Baddeley and Graham Hitch (1974), both British psychologists.

<sup>372</sup> *The Grand Design*, 2010.

<sup>373</sup> Further under sub “Radical constructivism”.

<sup>374</sup> Admitted, the argumentum ad hominem is used quite opportunistically here.

<sup>375</sup> Recall Vygotsky who in *Thought and Language* clarifies that endophasy only follows after having mastered to speak.

occurring phenomena.<sup>376</sup> The very idea of such an instance fits or follows from the Western appreciation in relation to the nature of man whereby functions of the body are distinguished from mental functions, whereby the body is considered a container for an inner life.<sup>377</sup>

The theory formulated by Freud provides another example. He observes that in healthy and in sick people mental processes occur which only can be explained by supposing other acts escaping consciousness hence unconscious processes have to be on play.<sup>378</sup> Here too what originally was no more than an assumption gradually took the form of a concept referring to some instance really existing.

As the concept is a building block in the act of understanding the world as a phenomenon, the concept referring to an ability takes a similar function.

Vico (1710) provides a nice quote to conclude this subject. "If our senses are faculties, i.e. productive agents then from this follows that the quality of objects are our products." The term faculty is akin to the term fact coming from the Latin "factum" or that what has been brought forth. This stresses the execution bringing forth an effect and by this coincides with the approach suggested in this text.

### *Knowledge, technique and theory*

#### *Knowledge*

In the previous paragraphs the concept of "concept" has been discussed in a general sense. As soon as features are getting selected and brought together into a unity a concept comes into being. Focus on a human, select the way he is moving around, upright position supported by the hind limbs, and the concept of walking as something seemingly existing and prone for discussion in its own right comes into being. "Walking" presents itself as an item available for discussion.

The same is taking place when talking about knowledge. It appears as an instance existing in its own right, moreover emerging from a dedicated organ. In the case knowledge is becoming discussed it – as in the example of walking – starts with a selection of features. The concept of minimal cognition facilitates clarification.<sup>379</sup> This approach respects the idea of continuity amongst species. In that sense, the human at - least in the earliest stages - is considered to partake in the same development as the species most akin. In a nutshell it comes down to the development of strategies favourable for the satisfaction of the primary needs.<sup>380</sup> They show behaviour serving metabolism, support the finding of a mate to bring forth offspring

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<sup>376</sup> Language here is taken as an intransitive instance allowing to bring forth linguistic expressions.

<sup>377</sup> Paraphrasing Ingold, T. 2000. The perception of the environment.

<sup>378</sup> Freud, S. *The standard edition of the complete psychological works of Sigmund Freud*. (J. Strachey, ed.) Macmillan (p. 2991).

<sup>379</sup> Van Duijn et al. 2006; Keijzer, F. 2014; Lyon, P. 2005. From a different angle but quite relevant for the subject is the research executed by dr. Audry Dussutour on *Physarum Polycephalum*, a one celled creature looking like a mould but isn't one, able to perceive and to move. Also the work of Stefano Mancuso on plant behaviour unveils spectacular findings. It all leads to questioning the concept of cognition commonly used.

<sup>380</sup> As a matter of fact it is a characteristic which lies at the core of all living species, from mold to complex multicellular organisms, cold or warm blooded. (for the lowest level see the incredible achievements of the one-celled

and avoiding harmful situations.<sup>381</sup> Observe that this very description already expresses a certain selection of features accommodating these under the umbrella term of ‘minimal cognition’. Cutting corners, this is the basic condition present in and shared by all living creatures, a condition instantiating a dimension of being alive which could be understood as cognition. The human however shows features transcending this basic layer. Layer is to be taken for an indication only and in no way as something on its own. This needs nuance. The extra dimension is based on the dynamics or the system of mediated manipulation part of the development also giving rise to the perceptive cognitive organisation which in the end would become called “object”.<sup>382</sup> This indeed implies that in this approach objects are not considered being things existing in nature but are orderings of stimuli in function of manipulation.<sup>383</sup> It should not be considered as a separate layer as it in first instance comes down to a transformation of minimal cognition and as such – putting aside the character of sophistication – is actually a continuation of the basic layer or mode. But it has to be admitted, it brings forth products and effects in which minimal cognition is hard to recognize.

The goal of this part is to stress that what is commonly recognized as knowledge is not to be taken for an instance existing in its own right but as a selection of features. It is necessary to realize that this selection is made by an observer bearing a particular – historic – perspective which functions as a filter hence the selection.

One should not look for an instance standing on its own waiting to be discovered. It is always about descriptions made from a certain perspective.

### *Technique and theory*

Technique and theory are concepts originated against a particular culture historic background.

In what is known of Xenophonos, a contemporary of Plato, there is no distinction yet between episteme standing for theoretical knowledge and techne as a skill based in practice.<sup>384</sup> That distinction only comes later and then gradually. In first instance, “epistamai” referred to the explanation given by a medic in

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physarum polycephalon). On the level of the factual it defines what life is. The human idea of cognition focuses on a very narrow part of this endeavour, on a very special way of realising the achievements mentioned while humans, quite wrongly consider their way of coping with the burdens coming towards them as cognition exclusively. The bias reaches a pinnacle in the human looking back considering his way of dealing with it as the yardstick to evaluate all other modes of performing strategies which could be named cognition.

<sup>381</sup> The Latin sapientia refers to act of knowing. Think of the homo sapiens as the knowing man. Remarkable detail: sapiens is related to “saveur” or smelling. Smell is the basic sense triggering evaluation of what is smelled by the limbic system.

<sup>382</sup> For an elaboration on this, Gilbert, J. 2018, *The Forgotten Transition*.

<sup>383</sup> Cf Wertheimer, 1923. Untersuchungen zur Lehre von der Gestalt. *Psychologische Forschung*, 4, 301-350. Cf the case of Mike May mentioned by Huber et al. 2015; and a similar case described by Ackroyd, Humphrey and Warrington (1974). More general Gordon, I. *Theories of visual perception*, Psychology Press. Also Gilbert, J.F.R, *The object in developmental psychology*, chapter 3 in *Supplement to The Forgotten Transition* (ebook).

<sup>384</sup> For an enlightening elaboration of the subject: Parry in the Stanford Encyclopedia of Philosophy, under “Episteme and Techne”.

order to provoke the cooperation of his patient. As such “epistethai” is related to the way things have to be done. It is a practical enterprise including care, caution and knowledge. It is a knowing how collapsing with practice.<sup>385</sup>

Plato’s contribution in particular by opposing an ethereal realm of ideas to flawed shadows raised by the senses, caused an atmosphere of glorification radiating into the appreciation knowledge still enjoys to this day.

The aim of these short depictions is to disembarass some concepts of the self evident character they seem to have, reducing their meaning to biological and culture historic backgrounds. As such they should no longer be taken to be natural in kind but constructs originating from particular points of view. That of course does not eliminate their very existence and the effects following from it, but it does eliminate the apparent need to look for it as if it were subjects really existing somewhere as for instance the search for consciousness and the mental....

### *Authentic features versus concepts with a historical background, a remarkable distinction*

On most cases particularities characterizing the human are getting listed without making any form of distinction. The mental, consciousness and qualia are presented next to the ability to transfer information with a predicative character or the ability to reflect. As if all characteristics belong to the same order.

A distinction is however possible. It can be made between features considered to be authentic and others deriving meaning from a particular historic context. In the perspective of getting grasp on a phenomenon the importance of this type of distinction cannot become underestimated.

Take the concept of “cloud-computing” as an illustration based on analogy. A user who is not familiar with the digital environment will probably not be aware of the fact that the concept is a metaphor. Confronted with the meaning taken literally “computing in the clouds” will come to him as a mystery while he, at the same time will be confronted with the effects of it (by for instance saving photos in the iCloud for later retrieval). For the adept however digital data take the form of bursts of electricity transported over wires and also by electro-magnetic waves, processed and saved on drives of tangible computers in data-centres really existing somewhere in the world. Quite similarly explanations such as mind and inner life also function as metaphors, in this case originating under the conditions and understandings of a particular historic period. And in the same sense computing in the cloud is difficult to grasp, the workings of the mind and the turbulences of the inner moods are equally of not more difficult to manage. This is the reason why the distinction mentioned has to be made.

### *Authentic features*

There are features following directly from the development, moreover installing even instantiating development itself. To be clear, there is not a development with such and such features as a by-product, it are exactly these features becoming what will be called development.<sup>386</sup> This for instance may refer to

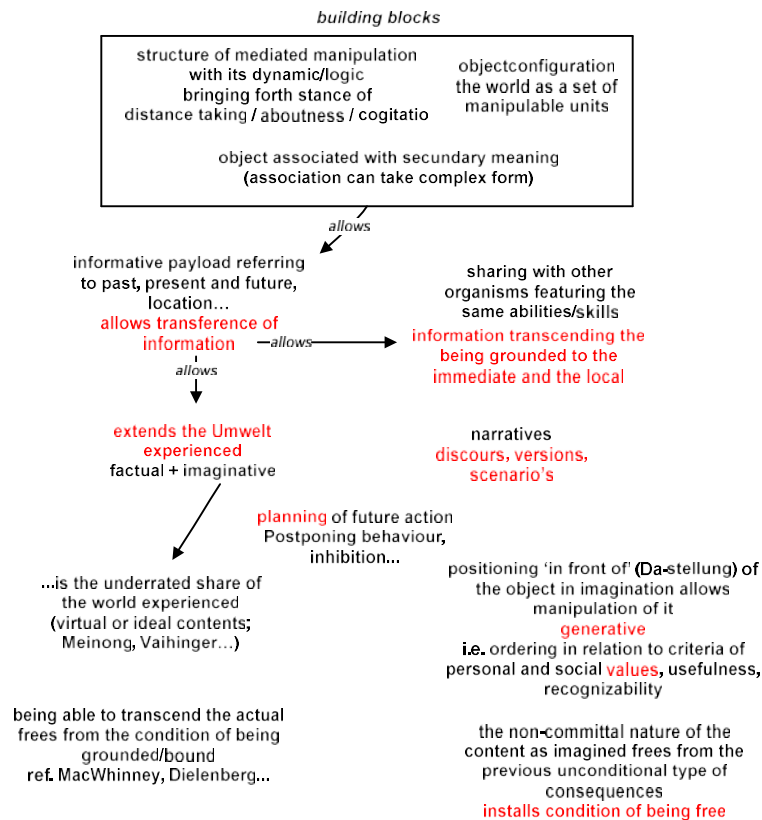
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<sup>385</sup> For this subject: Gilbert, J. Paralipomena, chapter 119 “Techniek”.

<sup>386</sup> This different way of formulation risks to become discarded as being of no importance. But the way of formulating incorporates a particular historic point of view. The wording sketching a particular development as a by-product

perceiving the environment as a set of manipulable units (instead of dynamic events), on perceiving the world as a seamless mixing of perception and imagination...

Ordered in a scheme:



### *Concepts with a historic provenance*

There are also other features considered typical human such as mind and consequently also body, dualism, consciousness, privileged access, qualia and the like.<sup>387</sup> From technical point of view these are historical based concepts implemented on real occurring abilities. It comes down to the fact that features and experiences, some of these mentioned in the previous part and considered authentic, from out a particular historical context received a particular meaning. For the Greeks the term "psyche" for example referred to a rather material conception of life taking the form of blood for instance. Gradually the

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implies on the one hand an essence of which the form changes over time (stress on essence as a Greek idea) and on the other hand a system suggesting a cause and effect mechanism (Galileo). The formulation chosen here wants to stress being, the ontic dimension.

<sup>387</sup> Mind is more than often considered to be a problematic subject while body is not. They are however both the same type of concepts moreover that of mind in a semantic tension precisely calling that of body as the collection of tangible aspects falling out of the sphere of the mind.

meaning shifts in the direction of “soul” having the character of an ethereal substance. “Pneuma” provides another example. It refers to a moving air, wind-like in the same sense “spiritus” referred to breathing. In the end it took the meaning of “mind” we are familiar with to this day.<sup>388</sup>

As said mentioning this distinction holds more than a just so reference. This is certainly the case for a subject like “mind” and “mental”.

On the one hand there are features like endophasy, the endless commenting inner voice. It has been approached by Vygotsky as a series of actions or operations to be understood in a not problematic manner (Vygotsky, 1986/1996). But also qualia are getting mentioned referring for example to the experience of undergoing a sunset transcending perception in an inexplicable way.<sup>389</sup>

In case elements of that kind are in one and the same move accepted with elements of a different kind in the same research project, then this comes down to begging for problems. Different types of elements require different types of answers. Understanding what the term “mind” could be referring to is best served by an etymological approach. Imaging based on scanning techniques shows without any doubt correlations but offer little explanation however the mentioned correlations are often treated as such.

The crucial fact is that neurological processes are without question involved in the bringing forth the workings and effects labelled as “mind” but if these are causal is a whole other matter.

For the latter, the importance of operations executed in the in principle public arena are more than often overlooked.<sup>390</sup>

### *Radical constructivism, categories and concepts*

Waking up in the morning a scene appears composed of meaningful units. We see windows, a house on the other side of the street, a bird on the roof. The world unfolds itself over there in front of the senses. The observer seems to accept that this presents the world as it really is, a panorama without an end. Some items appear transparent, recognized without a shred of doubt others remain for a moment opaque. Man seems to be a discoverer, an organism lifting the covers of what is out there. This condition is synonymous with having knowledge and the quality of it improves in pace with it agreeing with that what really is out there. The expectancy is that the depiction brought forth by the senses collapses with what exists out there independent from the observer.

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<sup>388</sup> For a more elaborate discussion, Gilbert, J. Unveiling the mind, chapter 2, part 2 in particular. Sources on shifts in meaning in the period mentioned: Snell, Onians, Bremmer, Cromer, Von Fritz, G. Lloyd, Clagett; last but not least prof. Emeritus H. De Ley (UGent) but also Nietzsche and Heidegger stress the importance of this period for the understanding of the original meanings of the terms concerned.

<sup>389</sup> Also called raw feel. The term “qualia” got introduced by the American philosopher Clarence Lewis in 1929 referring to the direct subjective experience. This got also discussed by Jackson offering famous example of Mary who knew everything about the colour red but never experienced it. (Jackson, F. Epiphenomenal qualia. The Philosophical Quarterly, 32:127-136.)

<sup>390</sup> At this point scientific thought takes an rather strange turn. Theories considered elegant testify often of simplicity which is praised as the pinnacle of beauty. Except, in case of consciousness. Then simplicity is considered to belong to the realm of fantasy. The brain as the emergent source of mental faculties is after all enormously complex and it seems silently assumed that a relevant theory must be complex also.



That is the way commonly is thought about the world, the way the world is considered as a natural instance. That is the way it is.

Question is, is that indeed the case? Is that really the nature of having knowledge of the world?

In 1710 Giambattista Vico notes "If our senses are abilities i.e. instances bringing forth an experience, then from this follows that the qualities of the objects are the products of that activity executed. In other words the act of seeing brings forth colours, sounds only exists thanks to the ability to hear, the experience of cold or heat only by the faculty of touch" (mentioned in Gash & Glaserfeld, 1978).

This quote is important because it not only describes the constitutive reach but at the same time expresses its limitation.

The reach of the ability and the limitation of it are only expressing different perspectives of the same.

Vico mentions abilities. He might as well have spoken about the body. As a perceivable entity it is easier to discuss, more difficult to refute. Why does a grasshopper not engage in matrix algebra? The answer is trivial: the anatomical abilities of this organism do not allow to engage in an enterprise of this kind, moreover it is absolutely no part of its life world in the same a television set is completely alien to a medieval peasant. The morphology and the operational abilities of the body determine the life world. Why does an earthworm not pick fruit? Precisely, for that reason.

That principle is so trivial that it is astonishing, even mind blowing to establish that it is readily overlooked when the human is subject of discussion. The idea reigns that man is capable to acquire knowledge of a reality as existing independently from him in the position of observer. How this is to be accomplished remains obscure, but apparently it seems to be achievable.<sup>391</sup>

But let's get down to it, how it might be possible for an organism, any organism for that matter, to transcend the confinements dictated by the characteristics of the body, is a complete mystery. An all too hasty reaction might consist by referring to the possibilities opened by micro and telescopes, radio-scopes, imaging techniques, travels through space, miniaturisation etc. but an approach like that overlooks the fact that all these contraptions became developed precisely within the confinements of the body. Whatever the perspective taken it remains an embodied operation. Piloting an airplane cannot be accomplished by an organism without hands.<sup>392</sup> No grazing animal lives in the treetops, not because there would be no food there but because the body they have does not allow it.<sup>393</sup>

As mentioned earlier every phenotype or any particular form of the body brings forth a particular system and dynamics, sometimes improperly called logic. This fact deserves more attention than normally given. It is more than a just so fact. It is of the same order of importance as Kant's insight that "the thing in itself"

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<sup>391</sup> It could be objected that naive realism of that sort is no longer endorsed by most of the scholars, that there is awareness of the fact that knowledge is all about models offering predictable outcome. This is probably the case but the observation that the literature is full of statements and opinions testifying of a degree of naive realism can neither be denied. However no scholar wanting to be taken serious still endorses the idea of Cartesian dualism, concepts such as mind and mental remain used as never before. It comes as weird that apparently no one seems to consider that these instance might never have existed (recall the case of phlogiston, the example given earlier). Strikingly the inadequacy is getting attributed to the reach of the ability to know, man seems not yet able to realize grasp of it.

<sup>392</sup> Even the proposal that in future machines might be controlled by the transduction of brainwaves falls within the boundaries of that logic.

<sup>393</sup> Cf Gilbert, J. *Hands and imagination, manipulation of the basic dynamic underlying displacement*; also in the abbreviated version *Hands*.

is out of reach for human knowledge, moreover that the suggestion of a “thing in itself” is itself nothing else than indeed a suggestion, a thought.<sup>394</sup>

This brief explanation wanted to stress a fact which cannot be doubted: the morphology and the operational abilities of the body determine the way survival will be realized. Parts of this are aspects which might in the end be conceptualized into “knowing and knowledge”.

### *One question, two trajectories*

The idea is to raise a better understanding of the specific character of the human being. What kind of a creature is man? What is the characteristic making him stand out against all other organisms? This problem seems one single question. But on closer inspection two trajectories in providing an answer lie open.

One is more technical in kind. Suppose someone is getting confronted with an object absolutely unknown to him. Obvious questions are: what is this? What purpose does it serve? How does it work? In function of the subject central in this discussion it are exactly questions of this kind getting formulated from the fields of anthropology, paleoanthropology, philosophical anthropology, biology and ecology. What is man and in what exactly is he different from other creatures?

The other trajectory which in contrast to the previous could be called semantic departs from a storyline. That refers to a meaningful description allowing an understanding of the world. Religious frames of reference offer an example of this type. The world is getting staged in a particular way giving rise not only to a pure form of understanding but also to the meaning of it all. This then becomes the perspective on what characterizes man. Moreover it provides a set of rules what to do in order to confer to the storyline imposed. This does not restrict to religions but to all types of framing trying to offer an answer on what it is or should be to be human. Therapeutic versions of framing offer another example. Types of behaviour or moods considered to be cumbersome are made understandable against a meaning giving framing. The latter pretends and accepts to offer a correct depiction of what is going on. Moreover, that acceptance is a necessary condition for the therapy to be effective. The same also goes for philosophical considerations. The Western culture for instance is burdened by the heritage of the Greeks. The very introduction of the idea that there something like an essence, the question into the nature of the essence, the conditions providing a truthful depiction, the whole idea of what is truth itself, the distinction between appearance and reality, the distinction of body and mind... all these are part of a particular storyline, scenario or discourse trying to define what it is to be human and its purpose.

The confusion is obvious. The need experienced is to gain insight from a technical point of view aiming to answer how it all works. While, and this is the crucial mistake, the answer is being looked for through cultural and history influenced versions. As an illustration take the understanding of the human living in the Middle Ages applying the filter of a psychological model which originated under the circumstances of a 19<sup>th</sup> century society.<sup>395</sup>

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<sup>394</sup> Reference made to “noumenon”, meaning that what can be thought.

<sup>395</sup> Recall note 12 on Muchembled.

As the stress will lie on description of operations provoking a particular effect, the explanation offered will follow the technical trajectory. The idea is that whatever the historical background the operations have to provoke the same effects. These will then receive a meaning giving version according to the opinions reigning in that period. The production of certain vibrations will on the level of physiology provoke a similar effect however one culture will appreciate these as horrible while another culture will be carried away. Technique and the meaning attributed are two different things.

It could be objected that the actual presentation also is raised against a particular historic meaning providing background, hence must be a storyline too. That is a correct comment. The implication would then be that the approach offered becomes contestable.

Indeed as soon as a stimulus of second order is applied to raise a displacement in space and time in the experience and by this bringing a scene to life, from a strictly technical point of view a story is getting raised. The fact that one story might be technical and another semantic doesn't change that.

However, the pretension of the approach offered in this text does not aim to reach further than "x being executed gives rise to y as the effect". It is exactly the same for what is called a scientific practice.<sup>396</sup> The success of the latter approach lies in the fact that a model, whatever the model, only is receiving recognition in so far it produces predictable outcomes. This agrees with the aim set in this text to expose operations realizing an effect which are predictable. Recall the example of the physical sound wave provoking the same effect again and again despite the fact that the storyline provoked by it can change overtime.<sup>397</sup>

In summary, the approach proposed does not question which story or version is right and which is not in depicting the world – as it is assumed to exist objectively, but wants to know how a story in first instance is realized.<sup>398</sup>

### C. The steppingstone

#### *The approach*

Suppose a mouse's nest. The world experienced by the little ones has to bear the character of a holistic experience fed by the local environmental conditions and the particular circumstances of the moment. Their "mission" is to look out for shelter, food, a companion to procreate and to avoid potential dangers.

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<sup>396</sup> There also exists a naive realist interpretation in the scientific approach pretending a truthful at least the best achievable depiction of the world as it really is supposed to exist for the eyes of an independent observer. However according to an embodied view setting a goal of this kind is unobtainable this scope motivates many scholars.

<sup>397</sup> Here could as well have been referred to de Saussure's distinction of signifier and signified. However the signifier excited by the sound wave remains to be the same, the signified – more broadly the storyline – is subject to changes under the pressure of historic conditions.

<sup>398</sup> The light-bulb moment on the difference between technique and semantic occurred being intrigued by a drawing on water running upwards made by Escher. The technique was flawless, the story on the other hand nonsense. The conclusion was obvious: however the two aspects constituted one unity they must be different in kind each following a different system or logic. See also further, sub *Support and content, an anecdotic illustration*

That very same condition in principle applies to all living organisms the human species included. It comes down to an environment, a niche in which the individuals of a species have to survive amongst species of the same and of a different kind. This is life in its most primary form. This is the basic condition onto which perception and motor abilities have to hook up. But distinct to the mouse the human developed contraptions allowing to reach on what escapes direct perception in the direction of the large, the telescope directed to the heavens (Galileo) or turned to the smallest parts (Van Leeuwenhoek and Hooke).<sup>399</sup> These achievements provoke attempts to develop action on the newly discovered levels. This presentation is actually simplistic. For the Western culture for instance the practice sketched so far is underpinned by the Old Greek question into the nature or the essence of that what is, in other words the question into the true nature of reality.

At this point confusion enters the scene, what level of existence is connected to reality?

Is that direct perception, experience and action? (the mice, for the human naïve realism)

Are the workings of the smallest of constituents opened up by microscope or the large elements far away observable with the microscope? And further still making use of the technique of projection: the smallest constituents existing far away (stardust, physical elements on Mars...)?

Or is it the level of action?

What in the end does reality stand for?

Is that however the right question? Would it not be better to inquire about the relevance of the level or of the perspective? Jumping aside in a reflex, the direct way in the case of a car appearing out of nowhere, will be evidently of more relevance than to question the workings of the neural tissue in that occasion.

The deep question into what is the true based on a correspondence with reality is in cases like that not very helpful. The atmosphere of urgency which seems to radiate from that question is a particular way of framing imbedded in historic background. It bears of the same nature and forces to bring forth a same type of reaction as when asked “who did you meet yesterday afternoon?” while there has been no meeting at all. In the case of reality it is about a concept introduced in the transition from the 6<sup>th</sup> to the 5<sup>th</sup> century BCE. In that period the idea of nature as the instance to be taken for what is invariable appeared.<sup>400</sup> This provoked the question into the nature of “nature”, what is the essence of that what is (ti estin ti). In turn it confronted with practical problems: what is the best way to approach this conundrum, the best way to acquire knowledge, the best way to unveil the true essence?

Awareness of the historic background is essential because the storylines brought forth by it veil and divert from the question of the operations relevant in a particular context. The awareness mentioned allows to bracket these storylines or historic versions and to focus on the relevant operations.

What is the theme central in this exposition and hence what is the scene or level that might be called relevant? The answer has already been given in the part mentioning the new or modern synthesis. It was said that whatever the cause of the change (contextual, behavioural, genetic etc.) the effective selection

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<sup>399</sup> This illustration suffices for the actual context however there is more to it. Man acquired a penetrating and all encompassing way of approaching the environment making use of means. This mediation is ubiquitous and in my opinion is the feature lying at the heart of the difference between the human and all other non human species.

<sup>400</sup> This has been discussed earlier under “Concepts with a historic provenance”

occurs on the level of the phenotype. That refers to the viability of the bodily form and abilities in the immediate surroundings. This is the scene of relevance here: the form and the abilities of the living organism, the body in its tangible guise which in the case of the human – being bipedal and provided with hands able to grasp... - allowed types of operations bringing forth particular abilities not observed in other animals.<sup>401</sup> Reduced to the core the question of importance is: what is the said form of doing resulting in effect xyz?

### ***Brain-centrism or brain functionality***

What is the function of the brain or the workings of the neural tissue?

In mainstream thinking two levels are getting distinguished alas often mingled without any form of distinction. On the one hand there is neural technique in the broadest sense encompassing neuronal surgery. The focus lies on technical interventions provoking observable effects. Think of the work of Wilder Penfield, Benjamin Libett and the group focussing on the workings of motor neurons, mirror neurons in particular. Some of the scholars in all this do not limit themselves to reports and step into a second level by offering interpretations of the observed results. That is the case for Libett engaging in considerations on consciousness and Michael Arbib suggesting that the observed workings of mirror neurons might be the substrate for the coming into being of the faculty of language.

Not seldom the reputation of the scholar in question plays an important role. The underlying idea is that scholar xyz has been involved in successful and maybe spectacular research before provoking the conclusion that whatever he has on offer will be of same standard. On the one hand Penrose for instance did brilliant work in cosmology on singularities and on the other he later attributed the origin of consciousness to – in his own words - the workings of still to find quantum gravitation fields in the neuronal tissue. Something similar is the case with Crick, one of the two scientists “making use” of pictures realised by Rosalind Franklin in order to construe the model of the double helix. After having been granted the Noble Prize, Franklin got neglected by the sports; he engaged wit enthusiasm in the study of consciousness suggesting that a resonant 40Hz vibration would have been of importance in the whole matter.

Concluding that it is a cautious practice to accept interpretations offered by experts in experimentation.

But apart of that type of bias interpretations from the past remain slumbering. It is hard to find someone still defending Cartesian dualism in public. But the accompanying register of concepts is undiminished in use by this leaving its marks in the experience. Mind and mental abilities are still distinguished from the body as if it were different instances with the stress on “instances”. Besides that there is the shift in the direction of the central importance of the brain, a shift dating from the 17<sup>th</sup> century.<sup>402</sup> There is of course nothing wrong with that. Man could not be thought of without the workings of the neural tissue.<sup>403</sup> The problem is that it does not end there as there is a lot more attributed to it. The brain seems more like a fountain from which almost magical abilities well up. This is even the case for the physicist reducing all

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<sup>401</sup> It should read here “to that degree of sophistication” as some animals also show elementary signs of using means.

<sup>402</sup> For the historical shift: R.L. Martensen, 2004, *The Brain Takes Shape*. Oxford University Press.

<sup>403</sup> Taken to the extreme unveils the true appearance of brain-centrism “remove the brain and cognition is deleted, ergo cognition is situated in the brain”.

what is to the form of matter. Even in these cases there remain abilities or dimensions not wholly reducible to matter.<sup>404</sup>

In the approach preferred in this text the neural tissue takes a constitutive part in the whole of the dynamic of the living organism. It is part of it, a necessary condition even, but not the essence determining the human condition. It is rather to be understood as a node. Noble and Davidson observe rightfully “(...) practices recruit the structures of the brain rather than being determined by them.” (1996:226)

It are situational and contextual practices changing part of the tissue into function regions, in the long run providing in principle omni-functional neural areas with specificity (Keijzer et al. 2013). Neural plasticity testifies of the fact that this suggestion is not without ground.

In short, against the metaphor of the brain as an Alladin’s lamp from which after fierce rubbing all kinds of wondrous abilities escape another depiction takes form: that of an acting organism in an instable environment provoking answering behaviour whereby the activity of the brain supplies an essential contribution.

The aim was to draw the attention to the fact that different perspectives got intermingled as if they all belonged to the same order. That kind of bias does not imply that one perspective would hold more correspondence to reality than any other. The importance is that each type of question connects to an order which is most suitable considering the circumstances or the goal set.

Looking for factors basic to the development of stone tools on the level of mutations is not the best the best way to proceed. To that end it seems more favourable to focus on changes in the environment or broader the ecology, which were influential in determining which species would survive and which not. For example has speech developed as a consequence of a flawed copying on the level of genetics or did it come into being under the pressure of a practice fitting the changed ecological conditions?

This does of course not exclude that a malfunction in the production of speech sounds could not be remedied by an analytic and mechanic intervention. But that is not the point here. The question central in this contribution is: how to produce typical human skills in the immediate circle of existence?

#### *Four stages*

As a final note before discussing the features individually and taking into account what has been said in the previous pages, four stages are to be distinguished.

In first instance there is the animal condition the human once shared with all other creatures in particular those most akin. Existence is determined by the condition of the primary motives at that very moment within the possibilities of the body possessed.

In the second stage there is already a kind of development consisting of the introduction of bipedal locomotion, an intensified use of the hands and the adaptation of the respiration etc. features accompanied by adaptations on the level of anatomy. This results in an anatomical form of readiness which is present in newborns.

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<sup>404</sup> Qualia has been mentioned before under “Authentic features versus features with a historic background”.

Social pressure drives the condition of readiness into realization. This has an impact on the directness of the animal organism and drives it in the direction of development of features considered to be human. This is the subject of the third stage which however has to be brought to activation again and again. For instance sounds in order to be recognized as speech have to acquire a particular form.

In summary:

1. the animal condition
2. anatomic adaptations
3. ontogenesis
4. given the previous elements as necessary condition, execution provokes the desired effect

### *Schematic overview*

Each depiction is based on prior assumptions. These provide the framework as background for the platform onto which a theory, a hypothesis or an explanation has to be unfolded. In that sense, clarification is a must. At the same time it supports understanding. That was the goal of the explanation offered so far. It must be added that these discussions merely are introductions. The interested reader should be served better with a more profound elaboration.<sup>405</sup> But what has been offered suffices for present goal.

As reference a schematic overview will follow.

#### *the meaning of explaining and understanding*

Being and consciousness as fully dynamic and, as the way they manifest themselves in the open (phenomenon)

Tangible and virtual objects manipulated in the same way disregarded their difference in kind (real mountains to be grasped by the senses and, golden mountains as metaphor)

“concept” itself being a concept of a cognitive scheme

Ability: potency of execution?

Knowledge as a dimension or aspect of being; the origing of it laying in manipulation / Greek “techne”

The background of features: following from “techne” of from history based interpretation?

Radical constructivism:  
the abilities of the body determine the depiction of the environment/Umwelt

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<sup>405</sup> Such as by “The Forgotten transition” and the supplement; “Objectification as linchpin”; “Beyond the Material Engagement Theory”; “Script”; “The 5th ape”; “Unveiling the mind”; “Deconstruction of Suddendorf’s Mind followed by a reconstruction”...

### ***The circumstances***

The initial condition	Adaptations in context
Phylogenetic and actual similarities	
Development & adaptation, scheme	Relevant adaptations in the context of the actual discussion
	From phylo- to ontogenetic and to execution/application

### ***The stepping stone***

The role of the brain: causal or functional?	The relevant scene: action in the public arena
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## The features

### 1. Displacement

#### *Specification*

That the human is a species amongst all other species is commonly accepted. All species exist within and are bound to the confinements of the local and the actual.<sup>406/407</sup> There is absolutely no reason why the human would escape this basic condition. But still... in the experience the human succeeds in focussing on subjects transcending the borders of this condition of being bound. However bound to the ground on which he stands and to the only moment he can exist he seems to be able to displace himself. This is a most if not the most remarkable feature characterizing the human species.

If might be looked for the one thing which could baffle any person then without doubt this is the best candidate. Quite often language is mentioned to take this position. But it will be made clear that language is a spin-off absorbing all attention.<sup>408</sup>

All creatures exist only in the actual and the local. The duration of the actual differs from species to species. A fly for instance takes in seven times the quantity of input-data compared to a human in the same objectively measured slice of time. This implies that for one component of information the time taken by the fly is shorter making time in the experience running slower.<sup>409</sup> The volume of the local on the other hand is determined by the reach of the senses and the motor capabilities. Hence the experience of time and space here is understood different than Newtonian frame of reference we in day to day life are used to.

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<sup>406</sup> Bishof-Köhler hypothesis; W.A. Robert in Wasserman , 2006:161; Clayton, 2009; Suddendorf & Corballis, 2010; Tulving, 1983; Craver, 2014. The astronomer Caleb Scharf, a very different context, focuses on the importance of handling information. In an interview he argues "We generate information and carry this around. (...) this is not saved in DNA (...) cannot be inherited on the level of biology (...) but we are however able to transfer by making is part of the artefacts we surround us with. This provides us with an enormous advantage" (De Standaard, 21 aug. 2021; p.21/ my translation). In a sense he only repeats the idea of extended cognition formulated by Clarck & Chalmers, 1998. *The extended mind* an idea Clarck added an elaboration in *Supersizing the mind* (2008).

<sup>407</sup> The critical reader might observe that this subject has already been discussed over and over again. Indeed. The repetition is intentional because it has to counter convictions which as self evident, even taken for natural dominate the common understanding. The position taken is more then a snippet of casual information, it is promotes a radical redirection of the perspective.

<sup>408</sup> This is a point of view different from mainstream thinking considering language to be the transference of information and in second instance an instrument to motivate people into particular expected behaviour (pragmatics). In the actual context language is getting approached as the use of an object in function of a substitutive stimulus in order to provoke a meaningful experience in the other, all this based on the system underlying the manipulation of tools. The system or logic lies at the core while the tool can adopt different forms (auditive, visual, tactile...). In his type of action the visual (writing for instance) is not considered to be a transformation of the auditive (speech) but as a mode in its own right.

<sup>409</sup> That is why it is difficult to catch a fly because the insect sees the human movement in slow motion and has the occasion to escape the blow.

But the way explained in the previous lines reflects the basic condition all organisms find themselves in, man no exception.

Distinguishing factual from experienced existence is suitable in this context. All creatures are in a factual situation. That refers to being there where one manifestly is. That is of course also the situation for the human. In all other animals the factual mode collapses with experience. The experience instantiates what and where they are. Being, perceiving and experiencing... all collapses into one dimension. This is different only to man. He is like all other creatures only there where he factually exists. But in the experience he can focus on subjects transcending this defined position. Being present bodily but absent in the mind. In thought he can wander around.

This type of experience is so ubiquitous and man is so used to it that it appears to be the natural condition. But the biological basis should not be neglected. Being bound to the local and the actual is the very first condition, the primary one not to say the natural mode referring to the biological basis. Being mentally in another place is quite extraordinary.

### *The twofold steppingstone into displacement*

The human experience specified by displacement i.e. not to collapse with the factual mode of being, has a twofold character.

On the one hand and part of the human condition: the perspective from a distance taking place in a confrontational relation. It is at the same time the feature laying at the heart of intentionality, the stance of being goal-directed in other words the stance of aboutness. On the other hand there is the ability to initiate scenes in the imagination, the voluntary thinking about this and that.

The first is characterized by actuality. The young child has to be educated into this mode approaching the world. But once that type of interpretation installed it is part and parcel of a condition which cannot be reversed. The second is operational in kind. It requires an execution in order to provoke imaginative content. The latter in particular is of interest for this explanation but he first cannot be ignored because it plays a fundamentally constitutive role.

### *The human condition*

The condition is related to the transition in the direction of objectification. That has a phylogenetic and an ontogenetic dimension.<sup>410</sup> For an elaboration reference is made to other texts.<sup>411</sup> A brief elucidation is however justified.

### *Phylogenetic*

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<sup>410</sup> Phylogenetic refers to the evolution on the level of the species i.e. how has an animal developed into the human while ontogenetic refers to the development on the level of the individual, the bringing up of a child.

<sup>411</sup> Gilbert, J. 2018. The Forgotten Transition, as well as to supplement to this publication (in progress).

On that level the transition refers to a reorganisation in the field of stimuli. In animals this organisation only follows from the condition of the moment of the primary motives, being hungry for instance, and the sensual and motor abilities of the body. The resulting general impression or “image” can best be described in terms of Gestalt-psychology.<sup>412</sup> What is of relevance in relation to the mentioned condition and abilities takes the foreground while all other elements become hazy in the background. Moreover what is relevant is dynamic in character. It is remarkable that animals seem to be sensitive to what changes in the scene, i.e. moves. What does not move risks not to be perceived, a phenomenon well known by bird watchers and hunters. In short what has been called the “image” bears the character of an event.

Under the pressure of ecological changes some branches of the great apes started to adopt an upright posture and locomotion. The hands already proficient in the grasping of branches and picking of fruits became freed from a supporting function in locomotion. Some even already made use of implements such as rods allowing to fish termites or nodules used as hammers for braking the shell of hard nuts. In that sense the use of hands and instruments was not a complete novelty. The acquired ease of a function in the locomotion opened a way to improve the skill of grasping of manipulation in handling implements. The crucial factor is that spread over an enormous window of time guided by the mentioned handling a selection in what is relevant in the perception occurs. Stimuli are becoming reorganised based on features important in goal directed manipulation making use of implements. Gradually a pattern in the perception gains importance, a pattern which could be called objectification. The concept is to be understood in a particular way. In this contribution objects are not taken to be units occurring in a quite natural way in a sense waiting to be discovered. What is coined “object” in this case is an appropriate label attributed to a pattern of perception consisting of formal characteristics.<sup>413</sup> These relate to manipulation, in Latin “*manipulus*” or handful, in particular characteristics such as the form, the type of surface, the weight, the volume, hardness... in short all those qualities determining if some unit is ready at hand. This is by J.J. Gibson called “affordant” and by Heidegger “*Zuhandenheit*”. It is what fits the dynamic of goal directed manipulation. So far for the form, but there is yet another factor of importance: the act of judging. In the case of an event, the relevance of the stimulus drives into action. In the case of the object the formal characteristics of the unity which is in front of the actor are of importance. These characteristics are located over-there in front bringing to light a particular relation based scheme: “in front of” or confronting. Distance occurs in a twofold way. In first instance within the framework of space to be understood as the volume circumscribed by the reach of the senses and the motor abilities, already mentioned earlier, a type of frame of reference shared with other species. In the case of the human there is however also the introduction of a stance of consideration (etymologically akin to examine, reflect on, ponder) of the reliability of the affordance features. A distance taking reflection takes place, a perspective of consideration. Thereby the stance of aboutness comes into being.

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<sup>412</sup> “image” is an engrained metaphor. It translates the totality of impressions into a visual form, however the totality of impressions distributed over all sensible channels is what is meant.

<sup>413</sup> Object refers to the Latin “*objectum*” or that what is thrown in front.

This is part of the human condition, a condition being the product of development. A development occurring in some branches of the great apes radiates within the group and over generations.<sup>414</sup> Stressing the transference is of importance as it takes place in the education of the individual or the ontogenetic dimension.

Three further observations are in order. Not highly relevant for this discussion but certainly worth to focus is that in this approach the handling determines the visual focus. This is different to mainstream thinking suggesting that the process starts with planning (thinking) provoking the act of visually exploring as such preparing to initiate motor commands. As mentioned in this exposition, somewhat exaggerated, it is the manipulation, the handling, broader still the negotiation of the environment guiding the visual focus. "Exaggerated" because, action and perception are actually one. A second point to remind: an object is not considered to be something existing in the world independent of the observer but is a particular way of organizing input in relation to mediated manipulation. Thirdly a particular perspective is involved. Once that has been installed, i.e. imposed by education, there is no way back.<sup>415</sup>

### *Ontogenesis*

In the previous paragraph on phylogeny the focus was on the development of a pattern. That is taken over by members of the group and overtime transferred to growing children. Two observations should be made. Firstly it is getting transferred in different ways. Explicit in a conscious process of education but the implicit imposition is strongly present from the very first moment.<sup>416</sup> Secondly, in those rare cases the process of enculturation does not occur the purely Gestalt based organisation of visual input remains in place implying that the pattern coined "object" does not get installed.<sup>417</sup> These observations find confirmation from different angles such as experiments with animals, developmental psychology and also experiences with congenital blind people having gained sight again after surgery and the already mentioned neglected children.<sup>418</sup>

The experiments with animals by Austin Riesen (1950) and by Hubel and Wiesel (1962) are well known. They subjected young animals to conditions which were absolutely alien to the species. The conclusion was that the recognition of what was to be considered the natural environment was not evident more precisely the findings showed that it was a product of education. This got confirmed from a very different

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<sup>414</sup> An easy to grasp example of that type of radiation and transference over generations is provided by the Japanese anthropologist Kinji Imanishi observing gangs of monkeys washing potatoes in the sea to capture the taste of salt, a practice taken over by newcomers and also by the offspring.

<sup>415</sup> It is like having acquired the skill of swimming. Once learned it cannot be undone. For a more elaborate discussion: Gilbert, J. 2018. *The Forgotten Transition* 2, I.1.

<sup>416</sup> The implicit way leads to what Wittgenstein calls the imposition of the "Lebensform". It refers to already present meanings and interpretations of the World in which the children are immersed. It reaches further than a pure cognition. It encompasses all what is involved in the practices of a particular culture.

<sup>417</sup> In the case of feral children or in cases of extreme neglect (the case of Genie for instance documented by Bromly Davenport in the movie *Mockingbird don't sing*. For a discussion on feral children: D.K. Candland, 1993. *Feral children and clever animals*. Oxford University Press.

<sup>418</sup> These are getting discussed in a more elaborate way in *The Supplement to The Forgotten Transition*, chapter 3.

angle. Congenital blind or people blinded at a very young age underwent surgery decades later by this regaining eyesight. This got illustrated by Prakash an organisation working in India treating children with an innate form of cataract. For the West there is the case of Mike May who at very young age got blinded by an explosion. In both cases the concerned seemed physically to be able to see, but they experienced difficulty acknowledging different forms as objects, let alone to recognize and identify these. It even went that far that Mike May after years of efforts returned to the lifestyle of the blind. Cathleen Moore, professor psychology at the University of Iowa suggests that these people experience the same condition as some one learning a second language later in life. This too takes great effort. In the latter case and maybe as well in the former, there seems to occur a threshold, a critical moment.<sup>419</sup> Findings from the field of developmental psychology show that learning to acknowledge (i.e. organizing input into meaningful entities) followed by a process of identification seems to happen in subsequent stages in time. It all starts with what has by Wertheimer been called “das gemeinsammens Schicksals”, a condition which according to Slater and Kellman not even occurs at birth (1996:23).<sup>420</sup> Here too the register borrowed from Gestalt psychology is best suitable. In the earliest of stages children seem to group elements moving together into a unit. Movement thus seems primordial; an idea suggested earlier (Ostrovsky, 2009). Around six to seven month recognition of illusory borders appears. A series of dashes becomes seen as a bordering line. At one year edges become recognized opening the path into the further recognition of objects. Culture differences also play a role. Aboriginal children in tribal areas learn to identify different units compared to children educated in big cities in the West. Trackers recognize meaningful patterns where city dwellers only seem to discern dust. And within the West itself the Aristotelian concept of an object differs from a post-Galilean perception.<sup>421</sup>

Rounding up, also the cases of child neglect provide data. Genie the child from Arcadia in California has already been mentioned. But there are also cases known of foundlings which - difficult to grasp - have been raised by animals. They all testify of an inability at least great difficulty in acknowledging objects let alone identifying them.

These illustrations wanted to make clear that perceiving some configuration as an object is a matter of formation; an object in other words is not a natural kind waiting to be discovered.

The obvious question is how this becomes implemented. There is of course a dimension of explicit education. With persistence and endless patience children are learned to produce the phonemes resulting in meaningful sounds proper to their culture. But there is also a strong form of implicit imposition at work. The newborn is without a moment of respite surrounded by if not overwhelmed by an endless collection of configurations we call objects accompanied by a series of sounds. Adults hanging over the crib provoke gently but in some case prod with a degree of urgency to engage in imitation. In these conditions the newborn from the moment of his first breath is submerged in a world filled with standardised forms and patterns which are accompanied by a repetition of acoustic input and by repeated emotional payloads. The desired is applauded and reactions considered to be wrong are answered by

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<sup>419</sup> Cf Kellman in Gellman et al. 1996: chapter 1.

<sup>420</sup> Reference also to Gordon, 2004:36 and Piaget both believe that the perceptual abilities immediately after birth are minute.

<sup>421</sup> The former interested in the nature of it, the second in the frame of reference based on measurement.

grunts of disapproval. In a human orchestrated context there is no escape to this kind of educational force. At this point what Wittgenstein coins as the “Lebensform” is getting imposed “manu militari”. In this stage of development the meaningful configurations are imposed, as well as the object pattern in perception as mentioned, as the connection between specific forms of objects with series of phonemes of graphic signs. That process occurs implicit and explicit. It is precisely this apparent ease that brought Chomsky apparently neglecting the exerted force to assume a poverty of the stimulus appearing to him that it had to be innate in kind.<sup>422</sup>

### *The association*

The associative binding which develops into a skill to deal with series of phonemes occurs through practice under a constant pressure of seduction alternated with coercion.<sup>423/424</sup>

This way an orientation taking the form of a stance originated; a stance which could be called the human condition together with a skill in using tangible carriers which in turn allowed to manipulate meaningful contents.

Observe that these processes of development take years to get installed and fully formed. The hypothetico-deductive way of thinking for example reaches the stage of full development between the ages of ten to twelve.<sup>425</sup> Besides the coupling of sign and meaning also knows several stages.<sup>426</sup>

In summery:

- Anatomical adaptations take place such as the morphology of the pelvis, the workings of the lungs and of the muscles of the chest in order to provide a continuous flow of air, the form of the hands and of the feet, etc.
- Objectification as a specific design of perception develops.
- A coupling between acknowledged and recognized forms and signs (sound, visual...) gets installed as well as

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<sup>422</sup> Chomsky was also familiar with the ideas of Descartes and from Port Royal on this matter.

<sup>423</sup> Cf Vygotsky in “Language and thought” (1986). I recently witnessed a child around the age of three to repeat again and again a few unrelated words. It sounded rather behaviouristic, holophrastic, the verbs omitted. For me it sounded as a building up a skill while following the original Chomskyan line of thought it would probably have been proof of an innate ability coming into development. A very different observation about association in this context is that it was already mentioned by Saint Augustine. His view is that thoughts are provided by God but the child has to learn the skill of producing the appropriate sounds to bring these thoughts to expression. Descartes much later still followed that idea.

<sup>424</sup> For a further discussion how the association developed in phylogenetic perspective reference to “The Forgotten Transition”, “Objectification as linchpin”, “Beyond the material engagement theory”.

<sup>425</sup> As described in the work of Jean Piaget.

<sup>426</sup> In “On Meaning” (chapter 1) six levels have been discerned. The first is determined by the degree of relevance in relation to the condition of the primary motives, the second in relation to the embodiment of the organism, the third lies is the original use of a tool, a fourth – as a matter of fact of relevance here – is meaning acquired by association. There are two more forms to follow: meaning based on definition and meaning by projection (as by the use of metaphor).

- the position experienced (confrontation) and the perspective of taking distance (as in consideration)

### *A step back to the core*

Meaning lies at the core.

The dynamic of any organism is goal directed. Its mission or primary motivation is to survive.<sup>427</sup> From what happens in the environment and can be caught by the sensibilities of the senses the condition of the mentioned primary motivation defines the selection.<sup>428</sup> When hungry these elements will become salient and selected answering the need for food.<sup>429</sup> In conditions of this kind the most authentic and basic form of meaning starts to show. Here appears the quality of being meaningful in its purest form. Here the word "meaning" obtains its meaning.<sup>430</sup>

Next in line is the manipulation supporting means, the tool, the instrument.<sup>431</sup> The original implement was meant to serve one particular goal which already possessed a meaning (appropriate carrion found for instance). A broken nodule with a sharp rim could serve to carve in order to make the carrion more manipulable. The act of carving collapsed with the meaning of the implement used. It was not considered a nodule with a sharp rim but a tool to carve. A third step extends the use to a generalization of the possibilities. It not only could be used to remove meat from a dead animal but also to accommodate a wooden stick of a sharpened end. By this one instrument acquired practice related meanings.

Until now the meaning following from the primary motivation has been considered to be the organic kind. This approach can be applied to every living organism. Next is the meaning following from the use of an implement which in kind is alien to the body, a silex nodule is used but not part of the body of the user. At this point a meaning related to the use, to the practice appears. This is the case for creatures making use of external units as in the case of hominids who started to walk upright and could exploit fully the possibilities of the hands. The next stage consists of a diverse use of the same implement. The

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<sup>427</sup> In the final pages of "The origin..." Darwin refers to fundamental laws being growth and reproduction.

<sup>428</sup> A lion having a full stomach will not show signs of activity even with a new prey within reach.

<sup>429</sup> Experience shopping in the supermarket with an empty stomach.

<sup>430</sup> The following diverts somewhat from the line of the explanation but it is important to understand the status of a stimulus. The usual presentation holds that man is on the receiving end of the range of stimuli present in the immediate environment, stimuli which consequently are getting identified and processed. This overlooks the fact that in order to be a stimulus there has to exist some kind of bodily sensitivity able to capture the impulse. Simpler said if the body does not possess sensitivity for X than X cannot be a stimulus. From this follows that a stimulus is embodied or the body is the determining factor in this. A pig's nose has an immensely greater sensitivity than that of the human. For the pig elements in the world exists escaping the human completely. So embodiment is the key word here. Culture is a second. The attention of nomads catches other elements than that of city dwellers. In short something has to happen in order for a stimulus to be occurring at all but obtaining effective stimulus value depends on the sensitivities of the body of the receiver while for the human culture also plays an important role.

<sup>431</sup> Instrument from the Latin instrumentum i.e. building, construct, ordering.

plurality of meanings is based on practice.<sup>432</sup> The fourth step suggests the following hypothesis. The tool of which the meaning is bound to a specific type of practice acquires a new use in an unexpected event, for instance a nodule destined to hammer shellfish used as a weapon to ward off an unexpected enemy, in the end even killing him. This is an occurrence of meaning transcending the trivial daily practice. The tool acquires a particular meaning whereby the presentation of it activates reminiscences to that extraordinary event. At this point meaning by association comes into being.

This is of utmost interest for this explanation.

In its most simple form the mere presence of the object suffices to provoke the extra meaning in experience.<sup>433</sup> The hominid already is in the stage in which objectification with its features of a perspective of distance and consideration is getting installed. Within that frame of reference it is appropriate to think that the object provoking association not only appears in the visual field by chance, but being a tool is getting presented in an active way. It is not that far fetched to assume in the actor an intention to show and to expect wonder and admiration at least that holding the implement high will provoke an effect of some sort. However trivial this all might seem to be, it is a crucial moment: the manipulation of an instrument and the expectance of an effect. It introduces in the concerned an experience referring to some event that at the very moment is not happening. The implement is present but not the referent as the core of meaning by association.

In the experience the being bound to the local and the actual is getting transcended and this based on a non-problematic intervention. The latter refers to the fact that the effect follows from simple manipulations imbedded in an ongoing development i.e. the handling of tools in a way not observable in other animals.

Recall the distinction made between factual from experienced existence.<sup>434</sup> In the development discussed here the factual existence remains unchanged. It is impossible to be in another location than the one the individual actually is.<sup>435</sup> But in the experience elements which are not manifestly present in the factual setting seem to appear.

On closer inspection this situation is not exceptional at all. For a mouse approaching a urine trail left by a cat in the experience of the mouse the cat will be in a way present as well. The exceptional lies in the fact, that the hominid by the execution of an action can provoke the said experience himself. It is an act characterized by a particular feature: he can fail to execute.<sup>436</sup> For the mouse the urine trail cannot be avoided. This kind of inevitability is absent in the case of the possibility to perform the provoking gesture.<sup>437</sup>

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<sup>432</sup> It reminds of Vygotsky arguing that inner speech, an apparent mental act, originates in public situations where speech is addressed to other people. See also Gopnik suggesting that inner evaluation occurs in precisely the same way as the evaluation of the behaviour of others in a public event.

<sup>433</sup> Present could be understood as "represent" but not in the Cartesian sense of depiction but in the meaning offered by Edelman "making present again" (Edelman, G. biologist, Noble Prize in 1972)

<sup>434</sup> Sub The Features; Displacement; Specification.

<sup>435</sup> This is a highly trivial statement, rhetoric in kind only meant to add stress.

<sup>436</sup> For an elaboration on this subject: The Forgotten Transition, chapter 2 sub 2.2.5. *Displacement, freedom and reification*.

<sup>437</sup> Ramachandran reports that apes in captivity having learned a (humanlike) "language" in the condition of being hungry are able to produce a sign which refers to a banana which is not present in the immediate surroundings (Ramachandran, V. The Tell-Tale Brain; 2011:136). Firstly this is not a real life situation in the forest, but a setting



This is not a trivial matter. It is a feature marking a rupture. Objectification transforms the hominid into a creature with a superior skill never witnessed in the behaviour of other animals, at least not to a degree of similar sophistication and skilfulness. This adds the experience a complete new possibility; a possibility that until then was not existing at all. It will make that creature very special.<sup>438</sup>

The importance of that effect is widely recognized. Plessner considers the animal to have a centric orientation while the human testifies of excentric perspective.<sup>439</sup> MacWhinney speaks of ungrounding while Gärdenfors refers to “detached representations”; it is a given also stressed by Hurford.<sup>440</sup> Dielenberg in turn observes that the human takes “unseen agents” into account. For Suddendorf the idea of “time travellers” is an important theme.<sup>441</sup> Bishof and Bishof-Kohler present the hypothesis that only the human seems to be able to anticipate future needs.<sup>442</sup> Hockett in his famous criterion on language points out displacement as one of the most important features. It is a point of view also taken by the linguist D. Bickerton.<sup>443</sup> Some authors mention this novel possibility as a part of a sophisticated ability as for instance language. But competences of this kind do not show up ready to the last gaiter button, quite simple actions offer the stepping stone.<sup>444</sup>

However by naming Hockett and Bickerton language became mentioned it is in no way the goal of this discussion. It is only used to point out that in principle quite simple manipulations of objects associated to particular meanings can give rise to an apparent magical competence such as language.<sup>445</sup> But blinded by the apparent complexity and steps in the procedure escaping understanding, the simplicity of dynamic on the lowest level is getting overlooked.

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organized by human intervention. Secondly the question arises if apes are indeed capable of performing that trick, why once in their natural biotope no signs of this behaviour ever have been observed? The answer most probably is that apes never developed objectification i.e. a condition allowing to manipulate an object present *over there*. Seen that way the stage of the technical skilled ape would have been a necessary stage (cf another contribution “Script”)

<sup>438</sup> Objectification and the attendant perspective of taking a distance is one aspect, being able to initiate imaginative content in oneself another. For more discussion on this subject, *Paralipomena: Van aap tot mens* (Dutch), chapter 137; *The 5th Ape*, a simple introduction into anthropogenesis, chapter 19. It discusses the distinction and the transition from the condition of a technical skilled ape into the next stage on the introduction in the experience of self initiated imaginative content.

<sup>439</sup> Plessner, H. 1928/1975. *Die Stufen des Organischen und der Mensch*. Walter de Gruyter.

<sup>440</sup> MacWhinney in Givón and Mall, 2002:239 and for Gärdenfors: 2005:1; Hurford: 2014:64-8.

<sup>441</sup> Dielenberg, 2013; Suddendorf: *The Gap*, 2013.

<sup>442</sup> Bishof (1978) and Bishof-Kohler (1985).

<sup>443</sup> Hockett C.F. on design features of language, 1958. Bickerton, D. is getting mentioned about this by Ramachandran in *The Tell-Tale Brain*. Also Arbib and Bickerton: “... the emergence at some specific time and place of the first signals that did not refer explicitly to the here and now would have represented the crossing of a clearly marked frontier (The emergence of Protolanguage, 2010:168)

<sup>444</sup> The early computers made use of adapted radio tubes able to switch on and off back and forth, thus realizing the execution procedures based on Boolean algebra, however complicated machines all by all quite simple processes. Contraptions of this type provided the basis for the ultra miniaturized and complex computers we all use.

<sup>445</sup> It will be evident that the coupling mentioned does not occur on the level of the object itself. In its function as a stimulus it activates a connection between two clusters in the neural tissue (from another point of view called signifier and signified). It would divert all too far to go deeper into this subject, referring that the object is connected to a particular meaning suffices.

Observe someone trying to remain immobile and expressionless. This condition will not provoke meaning by association. But as soon as the observed performs an action which functions as a substitutive stimulus as holding high a nodule used in killing an enemy then in the observers meaning is coming to life. The gesture executed realizes a representation.<sup>446</sup> It implies that an act has to get performed, not a just so act but one involving an object to which a meaning has been associated.

This allows transcending in the experience the boundaries of the actual and the local.

As an operation there is not much to it: the manipulation of objects associated with a particular meaning. Has an innate ability to be assumed?

Given the condition of anatomical readiness onto which education has been imposed as mentioned earlier, would the quite simple operation not suffice to provoke that effect? Take a piano. Its basic working consists in the striking of a cord, be it for a standard model of eighty eight chords and hammers. How simple is that? Nevertheless a trained performer is able to realise an overwhelming concert. Does a similar effect fall out of reach in the case discussed here, the manipulation of objects provoking series of displacements in the experience of all involved?

It is a heavily undervalued step in the development. In the instance the development to a technical skilled hominid already marks a cleft in relation to the way non human animals negotiate the world, the ability to leave the experience of being bound to the actual and the local behind, realizes a radical gap and opens the pathway to what eventually will be called the human condition.

### *Displacement, characteristics in the experience*

This development supported by changes in the anatomy, by training and by execution and raising a particular effect in the experience, requires some explanation.

#### *1. Carrier and content*

It is all about a manipulation of an object provoking a particular meaning in the experience. In this two elements appear: the object manipulated and the meaning provoked. The actual operation consists in manipulating the object; in the actual parlance it would be called a sign calling the effect. This is what is happening but not what is getting experienced, or rather how this process is described.

The mainstream conviction holds that man is provided with mental capacities, according to the most recent version, generated by the brain.<sup>447</sup> This is still a dualist appreciation in spite of the fact that no scholar today openly follows Descartes scheme. We act as if we manipulate the different meanings themselves. Some even suggest the existence of mentalese which subsequently finds expression with the help of language.

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<sup>446</sup> Holding in front in order to make it present (recall Edelman)

<sup>447</sup> For Aristotle (300 BCE) the brain had a radiator/cooling function in order to prevent the heart from overheating. Only in the 17th century the English medic Willis stressed the importance of the workings in the brain by this diverting the centre of the body away from the heart. One should realize for a moment how recent this all is, not even 400 years in the past.

This idea has a long history. It already appears in the 4<sup>th</sup> century in the writings of Saint Augustine, picked up by Thomas Aquinas, Boethius, Don Scotus and many others. In 1975 Jerry Fodor argued that based on what was known at the time, the concept of mentalese offered the most appropriate approach. This conviction is to this day respected. As such it diverts the focus from the more evident and less problematic alternative whereby the manipulation of physical elements whatever the make, functions as a trigger or is the carrier allowing secondary manipulation of associated meaningful contents.

Depicted in linear order there is not first the thought ordering the manipulation of object or sign, in first instance occurs the manipulation of objects subsequently provoking meaningful contents or (verbalized) thoughts.<sup>448</sup> This linear depiction is correct in the case of the ontogenetic development but once the process is engrained and running it follows a circular movement. An object calls a thought in turn provoking the manipulation of other objects and so on into an endless sequence whereby the interjunction becomes difficult if not impossible to mark.

To keep in mind: action as basis with meaning as effect.

### **Carrier and content, anecdote**

Image the following scene. Cut vegetables and bring water to a boil, add the vegetables, spices and some meat. These are the operations involved in making soup. Take the next step consisting of tasting the brew, getting in touch with smell and taste. Consider this as a dimension existing in its own right. As such there are two distinct scenes however the second is the effect of the first.

A simpler illustration is hardly imaginable.

But let us take another situation in which the test subject has no idea what soup is neither has knowledge about how to make it. Moreover in the setting organized he will be able to taste but not to perceive what goes into his mouth. He will be restricted to the experience of taste and smell.

The task is that he tries to explain what preceded the event of tasting, what rendered that experience he had.

There are two ways out. Or he attributes the effect to an instance or an organ which brings forth an experience like this as a finished product, or the test subject wonders what the operations could have been rendering an experience of this kind.

In the case of tasting the soup no one will be daft enough to assume an instance offering the experience as a finished product from an instance somewhere in the body. But astonishing enough this will precisely be the option chosen in case of experiences which are considered typical human. Without hesitation these are attributed to a mind or a mental instance that in a quite ethereal guise seems to exist somewhere. In the best case, the worst being the assumption that there really is something like a mind, it will be considered the product of the workings of an organ: the brain. The thought that it could result from the execution of operations – mediated manipulation – seems to be beyond the all possibilities.

## ***2. The experience of the world as an amalgam of perception and imagination***

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<sup>448</sup> It is relevant to remind of the points of view of Vygotsky and of Gopnik. Both authors stress processes in social and hence public activity.

The framing as cause and effect could for the actual setting better be understood as source and effect. The effect refers to an experience. Concerning the source a distinction between an unmediated and a mediated mode is appropriate. The terms used are actually self explanatory. In the unmediated mode the experience is fired up by direct forms of perception such as seeing, feeling, smelling. In the other mode an instrument associated with a second hand meaning is in play; recall the nodule with a sharp rim meant to be a scraper, used to kill an enemy and by this becoming a weapon (added meaning). But both modes result into an experience. However there occur qualitative differences – taking a bite of a lemon is different to observing an image of a juice dripping lemon – in the experience both effects mingle without a clear distinction.

Suppose further that one is in possession of a picture of one kilogram of gold and also of real gold bar of the said weight. However the picture also might give rise to all kinds of longings just as the real bar would provoke, the difference in order will be clear.<sup>449</sup>

It is however striking that this type of distinction is not made in a day to day situation when the experience is getting provoked by the use of words. There is no feeling having to deal with fictive situations. Suppose that I by making use of physical means, morphemes or graphemes i.e. words as mentioned in the previous sentence, refer to an aunt living in Paris. The first experience or dimension of the experience consists of the direct contact with the person I am speaking to, the second dimension is getting provoked by the use of 2<sup>nd</sup> order stimuli (Vygotsky) as the carriers of an associated meaning. Both dimensions provoked from different sources (the direct contact and the use of means) mingle into one global experience.

Questioned directly, anyone will agree that there is a difference, the direct contact being of a different order than the aunt present in imagination. But the important observation is that in daily practice and even within the domain of science pretending to transcend the folk-psychological level, experience based on direct perception and products of imagination are getting presented and experienced as one scene of events.

What is the importance of this?

However this experience is actually an amalgam fed by different sources, it is taken to represent reality. This is the world. While one should indeed be aware that a part of it is fed by direct perception while the other part is added through imagination.

This does not hinder nor harm day to day life. But it is of utmost importance in case the goal set is to gain insight in the – complex – nature of an experience, the latter in the sense of an interpretation or an understanding of the world.

A constructivist could object that the difference does not matter because after all: it is all construct.<sup>450</sup> This observation overlooks the core of the argument i.e. the statute attributed to the content of an experience.

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<sup>449</sup> I a more striking example might be needed: looking at an erotic picture and undergoing the experience first hand are of a different order.

<sup>450</sup> The Columbian neurologist Rudolf Llinas comes to mind. He argues that on the level of the visual experience there is actually no difference between the condition of being awake or dreaming in sleep. In both cases so he says the visual impression is a product of neural workings, hence constructions. (Mentioned in Greenfield, S. 2000. *Brain Story*. London: BBC Worldwide.

What I wanted to stress is the fact that in the usual appreciation no distinction is made. The product of direct input and of imagination renders the experience of one single scene of the world.

### 3. *A virtual world*

“L’homme n’a pas besoin de voyage pour s’agrandir. Il porte avec lui l’immensité”<sup>451</sup>  
Chateaubriand

The following only offers another point of view on what already has been explained. Here I want to stress the fact that to a large maybe even overwhelming degree the content of the experience is virtual in kind. Remarkably, effects of multi media applications such as virtual glasses – how striking can a name be, meeting rooms on internet, simulations in an educational setting are being considered a domain in their own right, admittedly referring to reality however in no sense an instance of it but a product of artificial means. The question arises what the difference might be with the condition of displacement or imagination as presented in this text.

This occurs on the level of input and only there. The stone nodule used to kill the enemy has itself not one property tied to killing enemies. It just got associated with the event in question. It functions as a stimulus of 2<sup>nd</sup> order provoking reminiscences – present in the bearer - of the event.

What contemporary is considered a medium giving rise to a virtual world fulfils the same function. The only difference is the endeavour to provide the stimulus with a guise approaching as close as possible the original meaning. Perceptually it should match reality.<sup>452</sup> With the modern techniques the image of a lemon becomes more lemon like but it remains an image and that does not change the structure of the experience – it does not allow taking a bite. Agreed, the quality of the picture like representation improved. The word “lemon” will generate less arousal compared to a holographic representation which is getting projected in front of the observer.<sup>453</sup> But whatever the source it keeps to be the product of secondary stimulation.

In that sense it is not too bold to conclude that as soon secondary stimuli are involved the world we experience is to a large degree virtual.<sup>454</sup>

### 4. *The complex character of displacement*

Until now the discussion focussed on a displacement in the sense of “Yesterday I met a friend in the market place”. In this an action provokes an effect. It is about the use of physical implements to reactivate neural configurations already in place, called a signified from another point of view, by this bringing a particular experience to life. This is an adequate description sufficient to clarify an operation of this type. However in the end the experience is based on more than that operation alone.

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<sup>451</sup> Man does not need to travel to broadening his world. He carries the immensity with him (my translation).

<sup>452</sup> Think of a shooting game in which the stimulus appears a real shooter but is it just a visual spectacle based on light tracing.

<sup>453</sup> However, the scene of the biscuits “madeleine” presented by Proust is quite appealing too.

<sup>454</sup> This subject is discussed in “The Forgotten Transition”, chapter 12.

In the following lines two supplementary factors will be offered.

#### A. Characteristics of the transition in the direction of objectification

The handling of a means provides the basis from where a perceptive configuration functional to the manipulation in question is gradually getting installed.<sup>455</sup> This way an organizing principle constitutes a form which today is covered by the concept “object”. The gaze begins to select these properties which are in a positive way functional for grasping in particular, the possibilities of moving the hand in general.<sup>456</sup> Only the motor dynamic got mentioned but that is hand in glove accompanied by visual and tactile process of valuation in the sense of estimation and of measuring the form manipulated, measuring the degree of being ready at hand.<sup>457</sup> In this process or rather movement a relation comes into being, meaning that actor and acted upon are no longer collapsing into one but an experience, a perspective of taking a distance arises.<sup>458</sup> The incorporation of the nodule-hammer breaks up. In the experience it becomes some thing held in front of and inviting to look upon. It is a judgement based in the act executed implying a taking of distance in order to be able to judge. Questions arise in a non verbal form: is what is ready at hand fitting the abilities of the hand in relation to the goal set? However the following example is not quite suitable, think of a discus-thrower “feeling” the discus: is it the right size, does the centre of gravity feel right? In our setting is the form of the nodule right; is the rim sharp enough to slice meat from the carcass? Does it fit the hand and will it be effective? All this stimulates the origin of a type of judging transcending responding the circumstances of the moment in a pre-programmed way (genetic, learned, experience). At this point the requirements of the practical goal directedness force and frame the senses into a rather new perspective which could be characterized as “looking upon from a distance”.<sup>459/460</sup>

The core to remember: it is about the execution of an operation making use of an implement, an approach at the same time provoking a change in perspective i.e. the consideration (the quality and/or effect) of a unit in front of - hence on a distance - of the actor, the unit no longer incorporated but divorced from the actor into something standing on its own.

Taking a distance, standing-off is an important feature. It is here where the collapsing of all input into one event retreats and the “positioning there in front of”, the “da-Sein” (being *there*, not collapsing with *here*),

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<sup>455</sup> A simple illustration to make it more tale telling: a child before the age of apprentice will have no particular interest in footwear. But once an apprentice shoemaker his world perceived will be focussed on it. In the subject discussed it is not about a concrete example such as shoes, but about formal characteristics in relation to manipulation.

<sup>456</sup> Cf the FARS-model, an acronym referring to the scholars involved being Fagg, Arbib, Rizolatti and Sakata. They studied motor neurons in relation the motor capabilities of the hand.

<sup>457</sup> Measuring not to be understood as comparing to a standard measure (length etc.), but bearing rather the character of an intuitive judgement in function of the goal set.

<sup>458</sup> Collapsing in the sense meant by Köhler when speaking about incorporation i.e. tool and body are experienced as being one.

<sup>459</sup> This marks the stepping stone into “aboutness” and into Sartre’s “cette distance nulle”.

<sup>460</sup> In earlier publications a sharp distinction was made between two situations, the older event based organisation fully driven by principles from Gestalt-psychology and the emerging object oriented one driven by the logic of mediated manipulation. It looked more a transition from one situation into a completely other one. Meanwhile I could not get around the fact that Gestalt remained to rule hence there was no radical gap. It looks more like Gestalt principles dictate the basic frame while the rules of mediated manipulation are getting imposed on top of it.

the ready at hand (something being over there inviting to be grasped by the hand) starts to come into being. Sartre speaks of “cette distance nulle”, the distance which is not. Factually nothing changed so there is not an observable distance but it feels like there is one.<sup>461</sup>

### *B. The twofold displacement in space and time*

In the operation mentioned the object presented is associated with a secondary meaning and is as such taking the function of a stimulus of 2<sup>nd</sup> order in turn provoking an experience of which the meaningful content refers to an incident outside the boundaries of the actual and the local. In that sense the object becomes the vehicle or the carrier of the meaningful content. It provides the building blocks for what has been discussed earlier, the scenes in imagination, and contents with a virtual character making out what is getting experienced as reality.<sup>462/463</sup>

Therewith it becomes clear that the experience of distance discussed has a twofold dimension. On the one hand the experience going with or following from the perceptual organisation which would result into an object which is a process accompanied by another, that of consideration. On the other hand there is also the experience of distance rising from making reference to events transcending the actual and the local.

In summery, the experience of distance holds at the same time a characteristic implied in the perceptive cognitive act of objectification, and a reference transcending here and now.

But there is a particular relationship between both. The object is the necessary condition allowing to refer to some event outside the actual. Or the latter would not be possible in the absence of the former. The conclusion is that the experience of distance is inevitably based on the use of means.

### *C. A condition considered to be a form of alienation*

This experience of distance is often referred to as a radical gap, a fundamental mode of alienation. Lacan for instance refers to it as the price paid for entering the symbolic order. It leads to an experience of deficiency, a lack, a void. It is about a lack of immediate being, an unconditional given reality (la manqué de l'être, le manque à l'être). There no single signifier able to solve that problem, on the contrary the chain of signifiers installs it again and again. Because language destroys the immediate she at the same time calls a longing to restore the condition which has been lost. It is a never ending process because as soon as language is used the void is getting introduced anew.<sup>464</sup>

With this appears the myth of a lost innocence, the image of the lamb, the ritual gesture restoring innocence after the sin has been committed. Innocence refers to the Latin “in-noscere” meaning not harming. In Lacan’s representation the human is harmed by the introduction of language.

To me this embodies the most extreme misconception to be thought of.

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<sup>461</sup> Take reflexion i.e. thinking about oneself. The thinker isn’t actually split into a thinking side and another which is thought about, but it however feels like a distance is present between both dimensions.

<sup>462</sup> Sub “The experience of the world as an amalgam of perception and imagination”

<sup>463</sup> Imagination not to be understood as fantasia but in the sense of imaginativa, a distinction made in the ventricle approach dating from the Middle Ages. Reference made to Thomas, N.J.T. *Imagination, eliminativism and pre-history of consciousness*. Paper submitted to the “Toward a science of consciousness (TUCSON III) conference”, 1998.

<sup>464</sup> From “L’angoisse, le seminaire livre X.

Because, it is precisely that condition which opens the characterizing abilities. Without it it would not even be possible to refer to a particular species recognized as “the human”. There would be a species amongst other species, maybe a technical skilled hominid in that way different from the others. But there would not be a radical rupture. It only would represent a more sophisticated mode of animal existence.

Negotiating the environment is the mission of all living creatures.

Taking a distance is part of the way the human is fulfilling that. It is anything but alienation. It exactly expresses what it is to be human, it expresses the human condition.<sup>465</sup>

The idea of alienation goes back on dualism. It relates to the two world model present in the writings of Plato. On the one hand there is the world of the true ideas and on the other perceptions in his opinion offering nothing else but a scene of shadows. The problem is not particularly the presentation of two different contents but the fact itself of the introduction of two dimensions, in other words dualism. This follows from the question into the essence which in turn follows from the introduction of the invariable or “that what is” (*hoti esti*).<sup>466</sup> The said introduction embodies a fundamental turning point in the history of Western thought, a subject reaching far beyond this discussion.<sup>467</sup> Some clarification might be useful for further understanding. According to Lloyd around the 5<sup>th</sup> to 4<sup>th</sup> century BCE there was need for an independent criterion useful in settling discussions. Nature in the sense of “that what is” got chosen.<sup>468</sup> Morton in turn attributes the origin of the invariable to the production of surplus in agriculture.<sup>469</sup> But whatever the difference in explanation, both focus on the appearance of the invariable in that period. The introduction of the very idea would in time beg the question into the nature of it. As a matter of fact the whole of the history which would follow is actually nothing else than the mission to find out the nature of things.<sup>470</sup> In that sense dualism as a heritage from the Greeks became one of the most important patterns organizing and structuring Western thinking. The discrepancy between appearance and truth, between being and appearing, between language and experience are but symptoms of that structuring. One should profoundly be aware of the fact that this is a pattern and a version with historical background. Neglecting

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<sup>465</sup> For a similar point of view: Heidegger in “Einführung in die Metaphysik” (1953). He stresses that there is no difference between being and appearing, both collapse.

<sup>466</sup> The sequence the other way around might be more easy to understand. The introduction of the invariable is the stepping Stone, followed by the question into the nature or the essence of it. In the endeavour to answer Plato points to a true and a false version (allegory of the cave) by this not only introducing that there is something like a “true” version, but of relevance here the structure of duality.

<sup>467</sup> For an elaboration on this subject reference made to other contributions as “Mind what are we talking about, deconstruction of Suddendorf’s rise of the metamind followed by a history based reconstruction of the concept of the mind”; and “The remarkable character of Western thought”; further “Script, a simple introduction into anthropogenesis” chapter 19 in “The 5<sup>th</sup> Ape”.

<sup>468</sup> Cambridge professor of history of science; reference here to the publication dating from 1991: *Methods and problems in Greek science*; in particular chapter 19.

<sup>469</sup> Timothy Morton is a professor at the University of Rice in Houston; originally researching romanticism but shifted focus to ecology.

<sup>470</sup> Recall Whitehead stating that the history of Western culture is but a footnote to Plato (offering one possible answer). Aristotle prefers another version but his texts only came available to the West after 1085 marking the fall of Toledo.



this fact by accepting the structure mentioned for a natural reality produces its own problems alas still troubling the actual thinking.

There is yet another perspective possible on the idea of alienation. The experience of taking a distance provokes a semantic tension. Similar as “milk” promotes thinking about “cow”, “black” to “white” and not to round or square, the experience of taking a distance provokes the suggestion of a condition in which this is not the case, a natural condition in which distance is absent, earlier called the myth of the lost innocence. This is however an illusion because there is no real distance taking involved only a particular perspective, a way of looking upon the world. It is precisely that way that instantiates the human identity, the human condition. There is no such thing as the natural condition only the animal way but once encultured into the human mode there is no way back, similar to trying to undo the boiled condition of an egg.

In summery, the experience of distance taking, an appreciation holding displacement unfolds in two dimensions. On the one hand “cette distance nulle” obtaining form as a perspective onto something positioned in front of the actor, and on the other hand a displacement semantic in nature. It will be obvious that this contribution focuses on the possibilities opened by the latter.

The comments made transcend the scope of this contribution. But omitting these would have left certain aspects in the obscure.

### *5. Two views on language*

However it is not the aim in this context to discuss language, it is difficult to avoid as there is a line of thought in which language is characterized by a set of operations, whereby displacement plays an important role. There is yet another factor forcing to do so. Displacement in the experience not only provokes a condition of ecstasy (excitement). It also has an informative dimension as it tells something about something.<sup>471</sup>

In short, the execution of operations, displacement and information are factors making it difficult to neglect language.

In mainstream thinking language is taken to be an ability bringing forth a product. It has a neural basis and is innate, at least the impetus is.<sup>472</sup> This actually comes down to a secular variant of the older version in which language was a gift from God allowing to express thoughts, also instigated by God. Ideas of that kind are present in the writings of Descartes but as well in these of the more recent Chomsky.<sup>473</sup> This paradigm conquered a dominant position to that degree that other alternatives vanished past the horizon.<sup>474</sup> And, it is precisely another approach which is of importance here.

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<sup>471</sup> This opinion is also present in “The emergence of protolanguage”; Arbib & Bickerton, 2010:169.

<sup>472</sup> Cf the LAD or language acquisition device suggested by Chomsky in the 60’s of previous century.

<sup>473</sup> See previous note. Pinker has made great effort to underpin Chomsky’s proposal from a biological perspective.

<sup>474</sup> Who, apart of some expert linguists, has ever heard about semantic grammar or cognitive linguistics, however very interesting approaches.

I will limit myself to some remarkable moments and ideas.

However Les Petites Ecoles de Port-Royal des Champs, functioning from 1637 to 1660, are religious inspired, the pedagogical approach practiced implied a radical turnaround. Previously Latin got learned by immersion. Without ado the student found himself amidst books written in Latin of which he had to make the best of it. "Port-Royal" on the other hand saw language as a structure characterized by regularities. Providing knowledge of these was the stepping stone into their approach.<sup>475</sup> However language remains to be a gift of God the focus is on the function as an instrument based on the use of rules. The atmosphere in which operations start to be recognized finds introduction all be it rather bashful.

The next step is taken by Locke. Perceptions so he says are the basis for "simple ideas". However for the complex one the workings of the mind are needed. Simple ideas are situated on the level of perceptions in direct contact with elements in the tangible and public world. Complex ideas reside in the ethereal realms of the mind. Tooke takes a radical step further.<sup>476</sup> Complex ideas in his opinion do not come forth from the workings of the mind as Locke suggested, but *through manipulation of linguistic elements (!)*.

From a gift from God over a system following rules (Port-Royal) allowing to bring forth complex ideas (Locke, adapted by Tooke).

On the other side of the channel Etienne Bonnot de Condillac suggests that signs are becoming associated with perceptions which subsequently are stored in the mind.<sup>477</sup> He continuous argues that the manipulation of those signs allows to revive in the mind stored content (sic). A depiction of language emerges as a system of means prone to manipulation an act which in the end can bring forth thought.<sup>478</sup> Operations of that type are even able to render extremely complex orderings of which Linnaeus system provides a prototypical example.

Then Wilhelm von Humboldt enters the scene.<sup>479</sup> According to that scholar man is in a quite natural way provided with language, somewhat similar as walking or taking a breath. A remarkable view which reminds of language as a gift of God. But he makes an observation which is particularly relevant here. "Just as it is a general law of man's existence in the world, that he can project nothing from himself that does not at once becomes a thing that reacts upon him and conditions his further creation, so sound (*speech*) also modifies in its turn the outlook and procedure of the inner linguistic sense (*to be understood as an ability*)."<sup>480</sup> (italic added) This provokes the picture of language in the form of perceivable speech affecting the speaker himself and by this reciprocal turn changes the processes and operations which

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<sup>475</sup> Port-Royal broke with the practices accepted in the middle Ages. Grammar as a set of rules got already introduced by Yaska and Panini in India in the 6th and 5th century BCE; also in Hellenist period in Greece.

<sup>476</sup> Locke neither Tooke can be identified with one single function. The first is well known as a philosopher but Tooke is an unknown character for many. Son of a poultry breeder he succeeds to study at Eton and later at Cambridge where he focuses on philology. Like all intellectuals in that period he had a broad field of interest among other subject knowledge and the function of language.

<sup>477</sup> A French cleric and philosopher, passed away in 1780.

<sup>478</sup> For recent views in that direction: Bronowski & Bellugi (1970); Kitihara-Frish (1978; Falk (1980): Holloway (1968), Lieberman (1975); Montagu (1976)

<sup>479</sup> Not to be confused with his brother Alexander who as an explorer-naturalist is better known by the public.

<sup>480</sup> Mentioned in Harris & Taylor, 1997, *Linguistic Thoughts*, vol. 1: p.171.

produced the original statement. This exposes a feedback loop. He further stresses that the mind has need of sounds allowing to distinguish, to compare and combine the different items present in the environment.

This position is a convincing example of linguistic determinism. In that view language objectifies elements or aspects of events and with it brings forth distinguishable entities of physical and of conceptual nature which subsequently are prone to manipulation. In more concrete terms it comes down to the fact that sounds are observable entities/objects which can become associated with experiences related to aspects present in the immediate environment. Manipulation of these objects or means allows to manipulate experiences in turn. In short: the manipulation of sound-objects allows manipulation of experiences. This expresses a point of view which without much hesitation can be said to be behaviourist or operational.

What has been suggested so far announces already the scheme which around seventy years later will become introduced by the French linguist de Saussure. He is the one referring to “le signifié et le signifiant” (the signified and the signifier)<sup>481</sup>

Summarized, this approach outlines that manipulations of objects provoke an experience of displacement. Further manipulation allows in the experience the composition of complex scenes, also called versions, storylines or discourses.

Under pressure of the mainstream thinking whereby language is considered as ability, this actual proposal disappeared into the folds of oblivion. The references cited show it is not a product of fantasy. At the same time it illustrates that is quasi impossible to present an idea which has not been thought already in history.

## **6. The core of displacement**

Displacement received quite some attention for obvious reasons. Without that effect of an operation, other features distinguishing the human from all other animals would be unthinkable. Schematized the development can be represented as consecutive steps in that sense that the first step is the necessary condition for the second – not as an unavoidable but as a contingent possibility.

### ***Development into technical skilled hominid***

#### ***Objectification***

**The ability to recognize and distinguish formal characteristics related to handling results in stable input configurations. Still subject to Gestalt principles it consolidated into a particular pattern.**

#### ***Two stages of development***

- 1. a concrete manipulation fo a particular form (hand – silex nodule)**
- 2. formal characteristics generalized in the act of seeing/motor**

#### ***Characteristics:***

- stance of distance taking**
- judging, considering**

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<sup>481</sup> If not familiar with this naming in case of the signified think of “tree” as a meaningful content and of “signifier” as referring to the sound of the word. The word “tree” in itself does not have a meaning of tree whatsoever. It refers to the sound but that in turn triggers the meaningful content and brings it to life.

Objectification is merely a name referring to the reorganization of input in the perception following from the action supporting handling of means. It all starts in a particular situation which, by repetition spread over a window of time, provokes a sensibility for relevant formal characteristics. By this a pattern of perception selecting relevant features out of the environment is taking firmly form and becomes consolidated. This eventually results into the environment becoming seen as a set of manipulable units.

### *Stepping stone into human characteristics*

'Object' as the result of a perceptive cognitive reorganisation allows association of a secondary meaning. As such it is the necessary condition for the composition of narratives

#### *Transition*

Storylines / narratives become the source of interpretation/meaning and break being bound to the actual and the local.

The **core** is the execution of manipulation supported by the use of means/objects. This pattern of mediated manipulation remains basic, whatever the degree of sophistication in the construction of the supporting tools and applications.

#### *Characteristics of the experience following from the transition*

- mixture with and equalization of a direct way of giving meaning and the mode provided by displacement result into the construction of one world experienced.

- the stance of taking a distance going with objectification and displacement on the basis of association result in a attribution of meaning, virtual in character

### *7. The aspect of complexity*

It is widely accepted that trivial operations such as mentioned in no case could suffice in the realization of the abilities characteristic for the human. Probably the idea of a mind bringing forth mental processes - a heritage with a historic provenance, plays an important role for holding that conviction.<sup>482</sup>

But why should there be a mysterious cause setting man apart from all other species? For Darwin man was a species amongst species and Richard Leaky went so far to formulate it in a quite confronting way: man is an ape... doing things differently.<sup>483</sup> It could be disputed if this position actually can be sustained and if so to what degree. But such a discussion overlooks, even conceals a fundamental rule: whatever the cause underlying a change in the morphology of an organism, it is exactly that form which has to proof viability in real life situations.<sup>484</sup> The second part of Leaky's quote refers to a particular way developed in the human in order to deal with the burdens of the environment. Following the previous statement about the viability in real life, that particular way has to be subject available for observation in the public scene. Again, for what good reasons should there be mysterious forces involved? The answer often is: it is all too complex.

<sup>482</sup> For an elaboration on the history: Gilbert, J. The 5th Ape, in particular chapter 19 *Script*.

<sup>483</sup> The idea of man being an ape is contested. Some agree that the last common ancestor is an ape and that the chimpanzee is but man is definitely not. I have no problem with the idea. As a matter of fact it does not matter much apart of these cladists following the strict rule in ordering species.

<sup>484</sup> Cf Ernst Mayer, a leading biologist.

However the following is not really fitting the subject of this contribution, I can't stop myself briefly to react on a knockdown argument like that.

From the point of view of the observer in order to be called complex different elements must be present and all the elements must be in some form of relation. That presupposes the perception of stable elements hence objectification. For an encultured individual of the human species, acknowledging and identifying objects a scene can be complex indeed. On the other hand for an organism that is getting observed but responds to a situation in a pure relation regulatory manner (think of a fox or an earthworm), complexity as a qualification of a situation does not even exist. A difference in intensity can be experienced (a hungry versus a fox just eaten a prey) but not a qualification of complexity. In short, complexity is not a qualification existing as a natural thing but always a qualification from a certain – human – point of view. Of importance for the actual context: the *perspective* whereby input is configured into stable units subsequently seen in a relation one to another is a necessary condition.

Once that type of organizing input or objectification is in place exerting manipulation onto those units comes within reach. These units in question are not just so units. They are configurations of physical nature associated with a meaning.<sup>485</sup> In so far the latter is taken in the form of a neural configuration when activated provoking an experience, then this too is material in nature. In that sense a “signified” (*signifiée*) not only possesses a conceptual dimension but also a material.<sup>486</sup> Concretely presented it is about the manipulation of a material object (sign), the activation of neural configurations provoking a particular – and by this meaningful – condition in the experience of the subject. It has to be added that in the end displacement plays an important role but the point here is that the human type of displacement i.e. initiated by the subject himself, not even could be thought of in the absence of a stable configuration in the perception, in short: objectification.

So the qualification happens on the level of distinguishable units or objects. These are imbedded in a manipulation which in the most simple form will be nothing else than the hand holding the object or manipulating it. There is nothing spectacular in that, it occurs in chimpanzees too, moreover the manipulation they execute is not a just so fiddling but shows a particular ordered dynamic. There is the holding and the executing hand, the use of multiple means in a certain relationship such as hammer and anvil. This – recall: behaviour of chimpanzees – in its own right already extends the possibilities in more than one dimension. In first instance it improves the resistance of the hammering hand. Further the hardness of the nodule protects the more vulnerable skin and avoids pain. The mass is augmented

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<sup>485</sup> It is actually the most basic meaning responsible for them to become considered as units. A nodule without the meaning of a hammer for an eventual user evaporates into a background chaos.

<sup>486</sup> See also P. Greenfield stating that there is correspondence between the development on ontogenetic level (education) of the combinatorial organisation in language *and* the manual combination of tools. This should rather be considered homologue than analogue i.e. variations on the same basic dynamic. (in *Language, Tools and Brain*, 1991. *Brain and Behavioral Sciences*). Vilnyur Ramachandran too points out a correspondence between the sequence in simple actions such as cracking a nut and the sequencing present in sentences subject – verb – the direct object. (in *The Tell-Tale brain*, 2011-149) On the level of practice the minimalist program suggested by Chomsky et al. (2002) comes to mind. It refers to merging, bifurcation and nesting (chinese boxes), each of these actually quite simple and no problematic in nature.

improving the striking power. And, new sources of food come available (the content of a nut, bone marrow...).

But in spite of these acquired profits one can't get around the fact this is a particular situation. There is no generalization of the type present in the human.<sup>487</sup> It probably could find explanation as follows.

In the development of language there is a stage coined holophrastic. It refers to a type of expression whereby expression, manipulation, experience and name collapse into one. Think of a curse for instance. The intention is not the attribution of a name but expressing the totality of the experience at that moment. Köhler researched the behaviour of primates. He considers the handling of tools by apes as incorporated, as embodied. The nodule serving as a hammer is not a thing in its own right but like in the case of a holophrase it is part of an all encompassing dynamic. In the development which would result in the human the hammer is becoming perceived as a unit in its own right.<sup>488</sup> At this point the being bound to a situation and heteronomously determined by it is in transition into the condition of "openness" allowing different alternatives to be explored.<sup>489</sup>

There is already a degree of complexity with objectification as catalyst, which moreover frees from being bound to the actual and local. This is the core. Once that is firmly installed an almost endless acreage of possibilities lies in front, but always within the framework of mediated manipulation. By way of illustration take the following contemporary example. The experience following from the use of internet access and the different modes of multimedia, computer animation, teleconferences with people all over the world is based on the use of only two distinguishable conditions – on and off – translated into one and zero implemented in a decision taking procedure or circuit.<sup>490</sup> This gives an idea of the explosive amount of possibilities based on the manipulation – a certain system or logic – of discrete units. The example of a piano has been given earlier: the skilful manipulation of eighty eight keys brings forth an audible spectacle bringing full theatres into delight, an experience which seems to stand far off the bare manipulation. On the number of discrete units the following provides interesting information. An eighteen month old child can handle fifty words which actually are discrete units material in nature i.e. air brought into vibration by the action breath and mouth. At twenty four months this amount quadrupled. Fours years of age it can master one thousand five hundred units culminating to two thousand five hundred two years later. An adult is able to deal with between twenty seven and forty two thousand

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<sup>487</sup> Shumaker et al. conclude that apes do a) not use tools to make tools, b) make tools individually never in cooperation, c) the tools are not combined in a meta-tool and d) the power of the tools is uniquely based on gravity. (Shumaker, R.W., Walkup, K.R., Beck, B.B. 2011. *Animal Tool Behavior*. John Hopkins University Press.

<sup>488</sup> This is actually the central hypothesis that I think I am allowed to conclude after studying the features of early stone tools. With data from animal psychology in the background there must have occurred a transition from the stage in which the Umwelt got presented as an event into the stage the Umwelt took the form of a set of manipulable entities.

<sup>489</sup> This does not suggest that an intention to explore precedes the action but precisely the inverse: from "playful" trial and error in which coincidence as determining factor plays a role of importance new possibilities find introduction. "Openness" has also to be understood in the same context, not as a perspective without an end, but by exploring the different possibilities which lie observable in front. The ability to distinguish different possibilities follows from the introduction of objectification in the perception.

<sup>490</sup> As an anecdote on how recent this all is: recall that the first computers date from the 1940's, the first home computer from the 1980's, MacIntosh 1984, first Windows OS 1985, access to www midst of the 90'. While it feels like it existed for ever.

units. Take further into account that each and every selection of units brings forth another unit which in turn allows combination into new meaningful entities again. A well-read Chinese adult masters about seven thousand ideograms; the same number of hieroglyphs present at the peak of the Egyptian culture. To be stressed again: it concerns units prone to manipulation. They not only have a proper or first line meaning but combined – in a particular sequence or hierarchy, they open the path to create a deluge of new meaningful configurations. Moreover these entities also have a particular function. Some refer to an activity, others to stable units; others again refer to or indicate a possession, still other express a relation in kinship or positions in space and time.<sup>491</sup>

All these possibilities and elements could not be thought of in the absence of entities configured in perception.

Concluding, complexity is a quality or an appreciation based on the occurrence of discrete units onto which manipulation is getting applied.<sup>492</sup> No ethereal sources have to be assumed.

### ***Recapitulation: in a nutshell, the abilities so far***

This is a good moment to check on how by the execution of operations effects can be brought into being in so far the basic conditions have been satisfied. That refers to anatomic adaptations being in place followed by the necessary educational pressure, both implicit and explicit.

This summary has two parts. The first explains the reasoning or the perspective on the subject. The second will take the form of a scheme offering an overview of the relevant topics.

As reminder: the hook-in point is the observation that the tools attributed to the human line testify a type of processing and adaptation absent in the tools of other species.

The theoretical background takes the following form:

### *The basic overall pattern*

An organism, any organism can not be anything else than a product of a specific environment (ecology).<sup>493</sup> This instantiates the conditions of possibility; the organism follows from these conditions.<sup>494</sup> Given the same general conditions, the particular morphology and way of operating is defined by local parameters and coincidence.

### The mission

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<sup>491</sup> For an elaboration on this, The Forgotten Transition, sub From tool in general to language in particular.

<sup>492</sup> For a striking illustration of the ability to operationalize complex movements the body intuitively make and by this transcends the level of rational control <https://www.bostondynamics.com>, in particular, <https://www.youtube.com/watch?v=fn3KWM1kuAw>. Without the translation of these movements into operations the effect demonstrated would not have been possible.

<sup>493</sup> Organism refers to an integrated system, by Darwin called grow-correlations.

<sup>494</sup> For instance breathing animals can only be thought of in an environment holding oxygen a substance only appearing at a certain moment in the history of earth. Hence breath taking animals follow from this condition of possibility.

All living organisms strive to survive<sup>495</sup>. This is the basic motivation or mission shared by all. (1)

How

The specific abilities following from the form and workings of the body determine the way the world will be understood and approached. (2) The world of the earthworm is different from that of the air-born bird. That principle counts for all living creatures.

Under the pressure of the circumstances the species which in the end will be coined as human developed a particular way interpreting and negotiating. (3)

(3) is imbedded in (1); in this man is not different from the other non human animals. It implies that in the cases where for animals mental features are not to be assumed this also holds for the human. The human realisations are based on nothing else than a different way of interpretation and negotiation of the Umwelt, actions taken in the public hence observable space.

[Mainstream thought assumes an essence functioning like source hidden deep within. It is responsible for bringing forth the features apparently unique to man. This idea originates from the old Greek effort to answer the question “what is that – that what is” (ti esti ti) after “that what (invariable) is” (hoti esti) had been introduced by this suppressing the direct articulation of existence.<sup>496</sup> ]

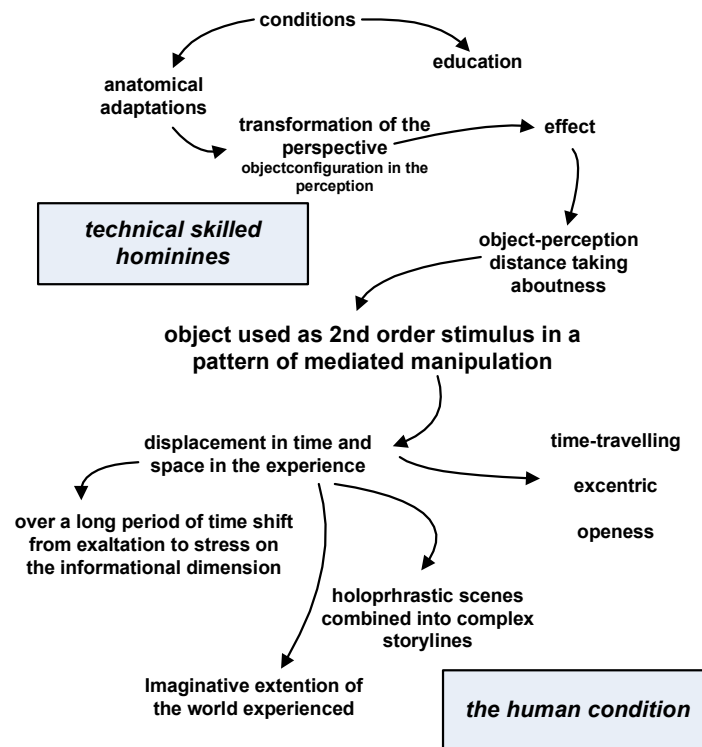
(4) The scene consists of behaviour taking the form of operations which can be observed allowing description. It opens the possibility to reverse engineering coming down to investigate and suggest types of activity having to be performed in order to bring forth the effect which has been observed in the first place.

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<sup>495</sup> Reference made to the final paragraph in “The Origin of Species”

<sup>496</sup> For an elaboration on the different types of objectification, one situated in phylogenetic perspective the other in Western history, see The 5th ape, chapter 5: *More than one object*.





## Clarification

Character of animal perception

- iconic
- monist, holist, unity
- direct, intertwined, dynamic
- fundamental drive is to survive

The catalyst

- mediated manipulation transforming the animal way of perceiving into...

The typical way of perceiving by a human

- the "world" as a set of manipulable units i.e. objects
- consideration of these units instead of intertwinement
- taking a distance and aboutness in relation to that which is subject of consideration, there is a perspective of distance experienced and it is about something (the hammer-stone, the prey...)
- the drive to survive gets embraced by a technical way of approaching i.e. the stance takes the form of quest: how could an actor performing mediated action realise the intermediate and the final drives?

= This results in an organism technical (better) skilled than the species most akin. The general stance consists of negotiating the environment making use of implements. This goes with a type of perception characterized by taking distance. This is not a feature added to the action taken but being part of it. In the same way the nodule of silex became perceived *there* in front of the worker, the world as a set of manipulable units becomes perceived as being *over there* in front of the human driven to negotiate.

- The tool with its original function as primary meaning is becoming associated with a particular situation obtaining a secondary meaning. Presentation of the tool provokes reactivation of the secondary meaning.
- In the experience it at first involuntary and later intentionally transcends the condition of being bound to the local and the actual.
- Scenes brought into the experience this way allow serial and hierarchical organisation resulting into ever more complex storylines (discourse).
- These are all quite unproblematic operations provoking complex scenes in the experience taking the form of imagination.
- A resurgence of this kind is an encompassing experience taking away the organism. At the core is a reference to something and as such it is also informative. Precisely that proves to be quite useful stimulating further exploitation.

#### Displacement as cornerstone

As soon as acknowledgement and identification of object patterns has been installed through a process of education and objects are getting associated to secondary meanings, manipulation of the object in function of a 2<sup>nd</sup> order stimulus results in the manipulation of the meaning associated, by this in the experience transcending the local and the actual.

Worded somewhat differently, concrete operations in which the use of means are involved extend the experience and allow to transfer information characterized by declaration (it is about something). These implements are the forerunners of what will become stereotyped signs. Concluding that displacement is the cornerstone for further development is justified because it opens abilities and effects not present in the behaviour of other animals.

The actual realisation of this is unproblematic i.e. not shrouded in mystery.

## 2.Theory of Mind (ToM)

There exists a vast amount of publications on this subject.<sup>497</sup> The aim of this part is quite modest. It only wants to offer elements relevant as background for the subject discussed i.e. how to realize a ToM in an actual situation?

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<sup>497</sup> To name only a few examples: Premack, D., Woodruff, G. 1978. Does the chimpanzee have a theory of mind? *Brain and Behavioral Sciences*, p. 515. Baron Cohen, S. 1999. Evolution of a theory of mind. In Corballis, M. & Lea, S. (eds) *The Descent of Mind*. Oxford University Press. Call, K. & Tomasello, M. 2008. Does the chimpanzee have a theory of mind? 30 years later. *Trends in Cognitive Sciences*. Vol. 12, Nr. 5:187. Meltzoff, A.N. 2013. Origins of theory of mind, cognition and communication. *Journal of Communication Disorders*. 32(4):251-69.

Having access to the mental content of others, gauging what their intentions and moods are, in the literature it is getting presented as an ability, a cognitive not to say mental agility. This confers with the original definition offered by Premack and Woodruff in 1978 "In saying that an individual has a theory of mind, we mean that the individual imputes mental states to himself and others".<sup>498</sup>

The present clarification will take the form of few remarks which as pieces of a puzzle will support the core of the thesis i.e. that the realisation rests on the manipulation of objects in function as stimuli of 2<sup>nd</sup> order handled in the public arena.

### *1. A conclusion with a hidden assumption*

Research programs executed by Savage-Rumbaugh et al. (1978), Povinelli et al. (1994,1996, 2000), Tomasello (1996), Theal et al. (1999), Call & Tomasello (1999) and Heyes (1998) to name some all reach similar conclusions. Chimpanzees and other non human primates do not understand the psychic condition of others. The predictions they make are based on past experience (and maybe to specialized cognitive adaptations), but they do not transcend the threshold of understanding goals, knowledge, perception and beliefs as motive to action neither do they have a clue about the underlying physical forces.

This conclusion is remarkable to say the least. However it agrees with the body of accepted knowledge on closer inspection it exposes a particular perspective so familiar that it is overlooked completely. "It is time to divorce from the conviction that reaction of animals most akin only would be motivated by perception of behaviour executed and observable in the open". This idea is in one or another form present in the publications of different authors. It suggests that there is more than the observable in play which brings forth answering behaviour. That "more" hints in the direction of something present in the human. The mental referred to by Premack and Woodruff takes hesitatingly form. It is not present in the primates in a full-blown manner yet but irrefutable in a somewhat premature form. It all starts, thus goes the argumentation, with the observation of the other as is the case for the human but... it does not end there. The final data show that chimpanzees understand goals and intention of conspecifics.

Formulations like this conceal a tacit assumption: humans possess abilities transcending what is observable in the open.

At this point some caution is in order. What does the last sentence actually mean? Does it refer to an operation provoking an effect of which the result is more than the sum of the distinguishable partial operations? Or does it refer to a mental capacity (Premack & Woodruff), a mind like or neural activity giving rise to supervening effects?

Shorter: man disposes of particular abilities such as ToM, other primates don't but they too have something transcending pure behaviour.

The sting lurks in the implicit suggestion that man possesses of abilities transcending what can be achieved by behaviour. In short, it is not as much the idea that the chimpanzee does not dispose or only

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<sup>498</sup> The question is actually a by-product of a research with a different goal. The authors wanted to find out if chimpanzees were capable to understand human goals.

partial of an ability of that kind, but that without question the human does. Mind-like or mental abilities are accepted without any form of restraint. But is that really the case? Could it not be that effects are getting experienced for which there is no explanation ready at hand in the register of the mainstream thinking and, following Goethe “denn eben wo Begriffe fehlen, Da stellt ein Wort zu rechten Zeit sich ein” in that case the “mental”?<sup>499</sup>

## 2. The rich possibilities of implicit heuristics

“Mensch is Weltbildend, das Tier is Weltarm”. That is how Heidegger sees it in “Die Grundbegriffe der Metaphysik”. It suggests that man partakes in a rich experience of the world while that of an animal is rather meagre.<sup>500</sup>

However there is a very different point of view in ethology, artificial intelligence and in the construction of robotics.

On the basis of her research Shettleworth professor of psychology at the University of Toronto concludes that simple processes which in first instance have nothing to do with explicit reasoning which is considered to be sophisticated, are able to realise complex tasks.<sup>501</sup> This has been convincingly been confirmed by Alex Taylor working at the University of Auckland with Caledonian crows.<sup>502</sup> The bird succeeds to solve a problem requiring eight procedural steps to be performed in a particular order. Research in the field of minimal cognition goes even further. Audrey Dussutour etologist studying ants and one celled organisms reports on the behaviour of *Physarum Polycephalum* a slime mold like creature. It is able to find the proper food hence making choices, able to find the shortest path to food, able to retain information and even to learn.<sup>503</sup>

The, at the same time trivial but also remarkable fact is that food in all cases is the crucial motivating factor. This stimulus which hooks directly in the primary motivation seems to be the linchpin in experiments with animals, even in the case of the slime mold. But setting this fact apart, Taylor’s crow succeeds in solving the task while it would be highly improbable to attribute the use of symbols as placeholders in extended memory - which would be assumed for this type of task - to this animal.

It has been mentioned that the manipulation of tools implies as particular system or logic. The crow in this example testifies of a far reaching development in this. The psychologist Gerd Gigerenzer stresses in

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<sup>499</sup> Translated free “when an experience for which no name exists occurs, spontaneously a word will pop up”. The quote is expressed by Mephistopheles in Faust, der Tragedie, first part. Quite interesting Whitehead adds to that as soon there is a name it is assumed that it refers to something really existing (the fallacy of misplaced concreteness).

<sup>500</sup> I have to admit that I use the quote in a rather opportune way. Heidegger might most probably have some other meaning in mind when writing this.

<sup>501</sup> Shettleworth, S. 2010. Clever animals and killjoy explanations in comparative psychology. Elsevier: *Trends in Cognitive Science*. Recall also what has been said earlier about complexity.

<sup>502</sup> Documentary film from BBC Scotland, *Inside the Animal Mind*, part 2 on 4 minutes. via <https://www.dailymotion.com/video/x1mwz57> of <https://www.youtube.com/watch?v=AVaITA7eBZE>

<sup>503</sup> It learns to appreciate salt which in origin it does not like in order to reach the food preferred. It is even able to transfer that information – or should I rather speak of condition – to another collective from the same type.

“Simple heuristics that make us smart” the possibilities of the simple.<sup>504</sup> Many decisions are generated by quick and dirty heuristics making derivations from scarce information. This does not only illustrate that simple elements can bring forth complex behaviour but it shows a rather important problem solving capacity. (1999:6)

Hans Moravec a mathematician engaged in the development of robots observes that movements based on implicit procedures are the most difficult to mimic. By this he expresses that a) implicit procedures are of a more difficult level than these which are explicitly formulated and, b) that the former are proper to animals stripping them from the qualification of being dumb behaviouristic automatons.<sup>505</sup>

### 3. *Practice in the public arena*

There is a theory known as cognitive simulation. It is a competitor for the suggestion that the human possesses a mental module allowing to gauge the mental states of others. “We enact the activities of others through processes of perspective taking and shifting” according to the cognitive psychologist Brian MacWhinney. (2002:235)<sup>506</sup>

The following ideas seem to confirm it.

a) In 1936 Herbert Blumer suggests that the relation to elements in the environment is based on the meaning these elements have for the concerned, a meaning originating from the interaction with others. The element acquires full meaning in the interaction with it. (1969:3)<sup>507</sup> It stresses the interaction in the public arena whereby observation of what the other says and does takes a key role. It is precisely through education imposed by others, consequently the opinions and beliefs of others, that the image of the self takes form. Trivial example: a child continuously criticized will in the end hold a self-image of low esteem. This dynamic however works in both directions: the behaviour of others will be judged likewise. This suggestion is relevant for the idea of a ToM.

- Blumer’s suggestion reminded me of what Wittgenstein suggested on the attribution of meaning to the behaviour of others. He argues that it is necessary, making use of a set of rules, to relate language to behaviour expressed by the other in order to fathom the content of his ideas. Failing leads to the feeling not being able to put ourselves in the place of the other. (1953, part 2). Rules are part and parcel of interaction. This again focuses on the real life practice in the public arena. What Wittgenstein refers to is part of what he coined “Lebensform”. This refers to the whole of knowledge, customs and engrained

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<sup>504</sup> Gigerenzer, G., Todd, P.M. and the ABC Research Group. 1999. *Simple heuristics that make us smart*. Oxford University Press.

<sup>505</sup> Moravec, H.P. Robotics Institute Carnegie Hall Mellon University, Pittsburgh, USA. Moravec’s paradox: rational reasoning requires little computational effort, sensorimotor on the other hand an enormous quantity. See also Rodney Brooks, Marvin Minsky and Luc Steels.

<sup>506</sup> The suggestion of understanding by enaction can also be found in publications of Barsalou. Barsalou, L.W. 2003. Situated simulation in the human conceptual system. *Language and Cognitive Processes*. 18; 513-562. Barsalou, L.W. 2009. Simulation, situated conceptualization and prediction. *Philosophica Transactions of the Royal Society of London; B: Biological Sciences*. 365, 1281-1289.

<sup>507</sup> Blumer, H. 1969. *Symbolic Interactionism: perspective and method*. Englewood Cliffs, NJ: Prentice Hall. For a good introduction reference made to Fink, E.L. Symbolic Interactionism. Chapter in *The International Encyclopedia of Interpersonal Communication*. 2015/2016. John Wiley & Sons.

actions providing a group of people a culture. (Eijzen, 1996:279)<sup>508</sup> What is the impact of the suggested? Suppose a leg appears from behind a screen. Based on what is known of the human it will be obvious what is hidden behind the screen (a knee, a thigh, by its form suggesting a man or a woman, a child or an adult etc.) A child does not grow up in a vacuum but in an environment defined by common knowledge, opinions, beliefs and attitudes kneading the child into the “Lebensform” proper to that culture. It instantiates the identity of the individual as a part of a particular group. Implying that observing members of that group, the shared “Lebensform” provides information on their behaviour but also reciprocal amongst them. It can easily be experienced when looking at people living far away, understanding escapes us a condition rarely the case in relation to members of the home group.<sup>509</sup> That it is a type of active understanding escapes us because it precisely is our identity by this taking the guise as if all behaviour is natural.

- It fits the approach of Alison Gopnik, professor of psychology at the University of Berkeley. (1993) In respect to the own mental state falling back on the same theoretical framework the same kind of deduction is being made as in the case of making deductions on the mental states of others. Also here there is no mention of a mysterious internal cause allowing to peek into the soul of the other. Here too the experience in real life situations in the public arena is the source providing understanding.

On closer inspection this agrees with the behaviour of the species most akin. Chimpanzees move on the level of the public arena where they can infer the presence of food from the behaviour of members of the group. But they do not transcend into another level in order to understand goals, knowledge and the content of perception of conspecifics.<sup>510</sup>

- Vygotsky's approach of inner speech or endophasy is also of relevance. It arises from learning to speak in the interaction with others gradually obtaining an inner guise (metaphor) or a silenced mode. (1934/1986). Inner speech as a phenomenon became measurable by the procedure tested and described by Sokolov in 1972. As a note in the margin, the idea of an inner voice started to take form in the Middle Ages with the introduction of silent reading.<sup>511</sup> An increasing self control forced upon by the scaling up of urbanisation in turn implying new ways of production requiring division of skilled labour, all this

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<sup>508</sup> “Lebensform or form of life has been mentioned in Philosophical Investigations and again in On Certainty. For the interested the reference mentioned to Eijzen is recommendable as it offers an overview of the different interpretations present in the literature.

<sup>509</sup> “Lebensform” is here understood as the identity providing framework of a Group. The idea could however be taken to a much broader level: the whole of the Western culture inspired by the thematising by the Greeks. And for the same reason as explained on the level of the Group, we do not see it. It became as our collective and cultural identity self evident.

<sup>510</sup> Roberts, G. 1996. Why individual vigilance declines as the Group size increases. *Animal Behaviour*, 51, 1077-1086. And further: Call, J. Tomasello, M. 2008. Does the chimpanzee have a theory of mind? 30 years later. *Cell Press*, Elsevier. In the same line of thinking: Call, J., Tomasello, M. Reasoning and Thinking in Non-human Primates. Chapter 25 in Holyoak & Morisson (eds.) 2005. *The Oxford Handbook of Reasoning and Thinking*.

<sup>511</sup> Saint Ambrose was suspected of sorcery because he was observed reading without a voice. Reading in the Middle Ages meant always reading aloud for the benefit of the illiterate in a public setting. Concerning the idea of an “inner” guise or inner World, Toulmin draws the attention to the fact the idea of an inner world found introduction in the transition of the 17th to the 18th century. It urges caution to understand the quality or locus of “inner” as a metaphor for the fact that it for a long time the phenomenon escaped the possibility of performing observations or measurements hence the suggestion in the direction of a (mental) ability. Toulmin, S. 1979. The inwardness of mental life. *Critical Inquiry*, vol. 6, no. 1, pp. 1-16.

provided the larger context for the coming into being of the experience of possessing an inner personality, a private mind.<sup>512</sup>

- This way of thinking shows affinity with a project presented earlier by Gilbert Ryle in "The Concept of Mind" offering an alternative approach for the Cartesian point of view on the mind. This author proposes a description in terms of dispositions and acquired skills, a setting not in need of inner objects and events. The mind is not an intransitive thing. When carefully observing the formulations in which the mind is discussed it in the end always shows that it is about behaviour. And, the formulations I (Ryle) make about myself are quite similar to the type of formulations made about the behaviour of others (1965:155).

- I would like to round up this brief overview of illustrations by drawing the attention to the conclusion of the research project executed by Gweon et al. (2011). They pretend to offer the first attempt to compare directly different ways of attributing opinions and beliefs to one self and to others. The exercise is based on neuronal as well as data derived from psychological investigation. From their point of view this approach provides a sounder empirical bases compared to other projects with the same goal. What is the conclusion of the research?

The neural activity shows that when asked to think about the beliefs they personally hold, it are the same neural networks used for the application of so called ToM in the case they think of the mental states of others.

Taking into account Vygotsky's argument that internal - considered to be mental - processes are interiorizations of observations and interactions originally executed in the relation with others then the conclusion can be summarized as follows:

- What is called a ToM originates in the inter-action in a real life scene in the public arena;
- it follows from the observation and description
- and involves enactment resulting into an understanding (Barsalou).

Hence it is not the result of an internal – so called mental – process that as a crystal ball squirts understanding subsequently projected on the (behaviour of) the other.

Adding the following two factors will bring forth a difficult to refute conviction.

Factor A: not completely unprepared

In most of the cases an organism experiencing a disturbance in the environment is not abruptly confronted with a whole new and unknown occasion. The limbic system (hippocampus, amygdale, hypothalamus, thalamus and cingulated cortex) allows evaluation of the situation and initiating answering motor behaviour. If this then is the best of reactions is not the issue here. So a basic set of strategies ready at hand may be assumed. Besides that most animals go through a period of learning from the parents or the troupe. In third instance real life experience adds to the body of (implicit) knowledge.<sup>513</sup> Cutting corners, the organism does not come totally unprepared in most of the situations. All this contributes to the formation of heuristics and strategies which Shettleworth refers to and elevates the animal far above a 1-0 choosing automaton.

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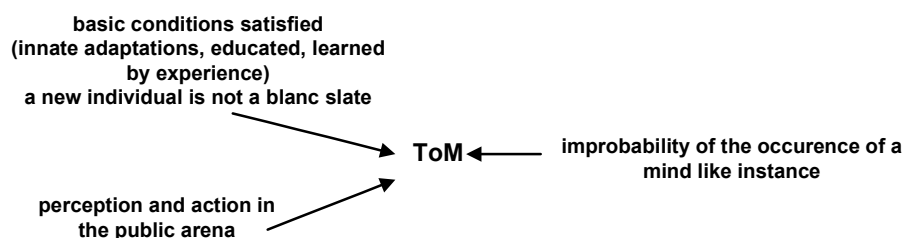
<sup>512</sup> See the keystone publication by Elias, Norbert. 1939 (German)/1994 (translation). *The Civilization Process*. Blackwell. For a concised introduction, Gilbert, J.F.R. The 5th ape, chapter *Script* (ebook).

<sup>513</sup> For a similar but a more elaborate model: the tower of generate and test, chapter 13, p.369 in Dennett, D. 1995. *Darwin's Dangerous Idea*. Penguin Books.

Factor B: the mental a product of a historical narrative

The theme central in this discussion, ToM, is the conceptualization of experienced effects. It is about being able to read the behaviour of other people, putting oneself in the place of the other. In the first part sub “Explaining and understanding” the character of a concept and of an ability was at stake. This was not about an instance, intransitive in nature, having an existence somewhere in the body, but about models allowing to grasp some phenomenon. Remarkably the whole idea of a ToM did not appear in the literature before 1978. Stronger still the very idea of a mind like instance came only in existence very gradually.<sup>514</sup>

In short, the question if there really is something like a mind is justified. Is it a concept, recall the quote by Goethe, might it after all be no more than some fabrication to refer to a type of experience for which there is no clear explanation yet?



#### 4. The ballet

Ballet dancing can be understood as the combination of two parts. In first instance there is the basic posture and the set of possible movements shared with all humans moving around upright. Wanting to master a special register of movements in sport or in ballet requires a distinct education transcending the shared skill. That implies that each special movement will have to be demonstrated by an expert and observed and practiced by the novice. Every part will become a separate subject to be studied and as such objectified. In that quality it will be manipulated, observed, presented as a model, tried out, and exercised. No movement occurs by accident, there is some system involved. A “battement tendu” requires a different ordering than a “battement fondu”. The basic register is preserved, it becomes adapted and extended.

This illustration offers a scheme which is useful for understanding the actual subject.

An individual does not come as a blank sheet. He is provided with a basic register, a minimal arsenal heuristics, strategies, motor procedures etc. Further adaptation in the phylogenetic perspective and

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<sup>514</sup> On this subject there are good books available. To name only two: Snell, b. 1953 in German/in translation 1983. *The discovery of the mind*. New York: Dover Publications and Onians, R.B. 1951. *The Origins of European Thought about the body, the mind, the soul, the World, time and fate*. Cambridge. For a brief introduction see Gilbert, J.F.R. 2021. *Unveiling the mind*, sub *What are we talking about?* in particular the second part *A brief history of the concept of mind in Western culture* (e-book). Also in the actual contribution a brief introduction about “Concepts with a historical origin”.



education in the human line offers supplementary perspectives such as the perception of stable configurations hand in glove going with new or improved motor skills. This is the first distinguishing step in the evolution resulting into the human condition. It could have ended here, the condition of a technical superior skilled ape.

However the development went on. Objects functioning as 2<sup>nd</sup> order of substituting stimuli allowed to introduce in the experience displacements in space and time by this transcending the condition of being bound to the here and now.

The point of importance here is that all these are unproblematic operations provoking effects transcending the trivial.

The whole of the process is circular and self-learning. With an increase in experience comes an increase in possibilities. On top of that, extra training increases the ability to explain and predict. A trained psychologist will be better than a non-specialist falling back on the use of a ToM.

At the core lay objectification and the possibilities opened by displacement.

### 3. Consciousness of the self

"Self-consciousness can be understood as an awareness of oneself. But a self-conscious subject is not just aware of something that merely happens to be himself, as in the case one is when observing an old photograph *without* realising that it pictures himself. Rather a self-conscious subject is aware of themselves *as themselves*; it is manifest to them that they themselves are the object of awareness."

(Lemma self-consciousness in Stanford Encyclopaedia of Philosophy, summer 2020 edition)

This description refers to different layers.

1. There is the level of knowing in relation to something, perceiving something.
2. Subsequently a feature (or cluster of features) perceived is later getting recognized on a picture.
3. What is recognized is a feature of the perceiver himself.

It is possible to relate this to the mechanism of knowledge by association provoking a displacement in the experience (reference to the chapter on displacement).

Suppose a nodule used to hammer. It derives its primary meaning from the action consisting of breaking the shell of nuts.<sup>515</sup> Suppose further that a predator got killed with it in an unexpected attack. Demonstrating that implement on a later occasion will most probably recall the event, the fear but also the courage of the user. In the accompanying experience a feature of the actor is brought under the attention. The observation of the tool will confront him with the fear and the courage felt. It instantiates a proto-form of recognizing oneself.

This representation agrees strikingly with Heidegger's "Dasein" (being there) a positioning contrasting with "sein". It expresses the relation to what is *there*, to what can be observed following from the act of

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<sup>515</sup> The different levels of meaning have been mentioned earlier: 1) primary motivation makes something meaningful; 2) the characteristics and abilities of the body as determining factors; 3) the first meaning of an implement (scrapping hides for instance); 4) secondary meaning acquired by association; 5) meaning through projection (metaphor...) and 6) meaning by stipulation.

holding in front of, of demonstrating in front of oneself. What is shown over there is not without meaning, it is recognized as being meaningful, in this particular context: courage as a feature of the actor.

The qualification proto-form needs some clarification. It does not imply 'less in quality' but earlier in the development. Abstract and stereotyped symbols, morphemes or graphemes, which we are familiar with, are the actual highest mode. But regardless the degree of development, the meaningful payload is the same: a recognition better still resurgence.

Suppose I pronounce the name of someone familiar. A meaningful content consisting of experiences with that person, image like features like wearing glasses of boldness, knowledge about family and social roles will appear.

From a technical point of view what difference would it make when referring to one self?

Might there be something missing? The only difference is that in the first case I know it is about something else and in the second referring to my-self. Is this a condition escaping the understanding? Why should it? It is one instance of knowing that has another as subject.

Even the suggestion that there might exist something like a type of knowing of higher as in the knowing that I know, is misleading.<sup>516</sup>

It suggests knowledge about knowledge, the first instance a somewhat magical mode above the common mode taking the as subject of scrutiny. While as a matter of fact the only thing changed is the predicate.

I know that I am able to *run long distance*.

I know that I am able to *know about myself*.

The activity of knowing remains what it is and it has a subject. That can be running but as well knowing. But in the appreciation we seem in the latter case to realize a special condition in that the knowing instance seems to transcend the activity of the common way of knowing while actually nothing special is being performed.

For this subject too it applies that an object in reach hence allowing to be manipulated and the object is associated with a secondary meaning, manipulation of the object provokes in the experience a revival of the circumstances which gave rise to the secondary meaning. It is of no importance in case the secondary meaning is referring to a third party whether to the actor himself.

It could be objected that a revival of that type not necessarily will become experienced as self referential. This argument cannot stand for long. It is the actor having killed the predator and as such the experience will be more laden than a just so reference to some scene. He will psychically felt caught by the presentation confronting him. It is not improbable that in that type of experience the very first signs of self-awareness arise. But, once the experience shifts from pure exaltation in the direction of a growing attention of the informational component the character of the experience becomes ever more cognitive in kind.<sup>517</sup>

Here too objectification imbedded in the process of mediated manipulation in the experience giving rise to a displacement in time and space is the necessary condition.

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<sup>516</sup> Rosenthal, D.M. 1990. Why are verbally expressed contents conscious? *Ziff Report*, nr. 32, Universität Bielefeld. In the same sphere: cogitatio (Descartes) and the attribution *sapiens sapiens* (paleoanthropology) also refer to a type of knowing about the knowledge it actually holds.

<sup>517</sup> For an elaboration on this: Gilbert, J.F.R. 2018. The Forgotten Transition. Chapter 2.3.3 *From Ecstasy to Information*.

#### 4. Generativity as the discriminating feature, Wallace's problem

There is distinguishing feature that as far as I know never get discussed apart from clearly delineated subjects. In social oriented sciences for instance generativity refers to the inclination present in elderly people to share something with the younger generations.<sup>518</sup> Early in the 21<sup>st</sup> century J.L. Zittan introduced the suggestion to use this term to refer to a characteristic of technology the latter seen as an ecosystem. He had informatics in mind in particular the condition in which new situations, products and behaviour came into being without intervention of the creator of the system. Cutting corners, once the system up and running it was observed to be generative i.e. maintaining itself. Think of what is becoming called self learning systems for instance.

The term is also getting applied in the domain of linguistics however there is disagreement. Chomsky to whom the term is often related would not have meant more than to express that a certain grammar was explicit. Followers of his paradigm took the idea of generativity further to refer to a grammar able to bring forth an infinite number of sentences. (Ney, 1993) In Hockett's and Altman's famous overview of design features productivity is also present referring to the ability to generate new sentences again and again with a limited set of elements. (1968)

Within the context of the actual discussion generativity will be understood as the occurrence of a quasi endless stream of possibilities in the endeavour to cope with the burdens imposed by the environment. Alfred Russell Wallace got stunned by it, not by the fact of the endless stream of possibilities in itself but by the fact that those possibilities transcended the needs rising from the mechanism of natural selection.<sup>519</sup> What is this about?<sup>520</sup>

Organisms are closely connected to the circumstances surrounding. These could as well be called the conditions allowing an organism to come into being and to exist. An earthworm does not live ten meters above ground, a bird not deep under water. Changes in the environment require from the organisms extra efforts to survive. Take the classic example of the giraffe. Suppose trees starting to grow taller with this shifting foliage upwards too out of reach of the animals. These already possessing the longest neck will survive. They will be the only individuals able to procreate while all the others will perish. This way the process of selection acts like a pruning filter. The theory of evolution by the mechanism of natural selection does not stimulate species to grow particular abilities – that is the line thinking proposed by Lamarck but only holds back these individuals already possessing a skill at least just enough to cope with

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<sup>518</sup> In that context the term is attributed to the psychoanalyst Erik Erikson.

<sup>519</sup> It seems common to attribute the theory of evolution by natural selection to Darwin mainly however Wallace suggested the same idea and wrote about it to Darwin. There were actually four or five creators of it. Besides Wallace there was also a publisher of bibles who understandably wished to remain anonymous and a grower and merchant in trees and plants. The theme of evolution was a hot item in that era, many scholars suggested ideas on that subject.

<sup>520</sup> For the interested reader Bickerton published an instructive book on what follows. Bickerton, D. 2014. *More than nature needs*. Harvard University Press.

the changed circumstances.<sup>521</sup> Hence, the so called adaptation is not an active but a passive out filtering process. In the example given it will only be the line of the giraffes already having the longest neck which will remain. This does not require initiative, the fact they do suffices. Furthermore, this adaptation is only restricted to a very particular problem, in this case the foliage shifting upwards.

### Wallace's problem

"Natural selection could only have endowed the savage with a brain a little superior to that of an ape whereas he possesses one very little inferior to that of an average member of our learned societies" (Wallace 1869: 204)<sup>522</sup>

So far the quote, what is actually the problem?

Man is a species amongst species hence subject to the same dynamic. It might be acceptable to assume that natural selection will provide the savage with a brain which is only slightly superior to that of an ape. Recall the example given of the giraffes already possessing a longer neck; in this case it is about humans being slightly more clever. But so Wallace observes, that savage testifies of possessing a brain which is not much less competent than the brain of modern educated people.

In other words the development of the human, savage or modern, does not fit more or less the same level the changes imposed by the ecology take, the possibilities demonstrated by the human transcend the new burdens to a large extent. Back to the giraffes: the selection does not show giraffes with a somewhat longer neck enabling to browse the foliage; they prove to be able to solve algebraic equations. It will be clear that this example only wants to illustrate the magnitude of the difference in development transcending the new needs in an exponential way.

This leap in development is exceptional. It does not occur in other species. That is the problem Wallace felt confronted with "How is it possible that an organ (brain/mind) underwent a change transcending the needs of the possessor of that organ?" (ibid. p.392)<sup>523</sup>

What has been presented as a problem in the previous paragraphs is actually a feature characterizing the human species. The interpretation of generativity offered by Zittian hits the nail on the head however he focussed on the domain of information technology. The technique underpinned by digitalizing, recall the efforts of Alan Turing, produced an ever increasing stream of abilities and applications transcending immediate needs.

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<sup>521</sup> Darwin suggested this mechanism but he did not understand how these achievements came into being. It would take forty more years before Hugo Devries published his ideas on mutations.

<sup>522</sup> Savage akin to primitive referred in the 19th century to preliterate. The appreciation of aboriginal people differed radically from views held by anthropologists nowadays.

<sup>523</sup> It is at this point that Wallace diverts from Darwin. This was a conundrum of such a magnitude that Wallace could not answer unless to accept divine intervention. The public attention is often focussed on this at the same time neglecting that most of his proposal concerned the mechanism of natural selection. In the meantime on the 24<sup>th</sup> of January 2013 his portrait is – rightfully - presented next to Darwin in the hall of the Museum of Natural History in London.

The point deserving attention is that this kind of openness, this seemingly endless productivity only is possible through a situation which has been mentioned more than once in this contribution.

The dynamic characterizing the production generated by this technology is based on the imaginative construction of models. It is an activity commonly considered as an expression of creativity. On models and modelling the following has to be observed. They are non-committal i.e. the application does not result in unconditional effects.<sup>524</sup> It is within reach to imagine a precarious enterprise however to remain spared from the risks going with it if it at some point might go wrong. Secondly, a model is based on associations in particular these connected to other associations i.e. projections. That is to say that this falls back on quite simple patterns in the same sense a long division is making use of in principle simple tokens. The bottom-line is that there is nothing mysterious to it.

A model is a specific application of a displacement in space and time; an application making use of plural imaginative displacements by this allowing to build complex constructs. A displacement in the experience of this type cannot be realized without manipulable implements, objects.<sup>525</sup> Not to forget that the coming into being of the object-configuration in the relation to action supporting implements was accompanied by a stance of distance taking. Taken together it brings forth an encompassing experience in the form of an imaginative life-world in which endless combinations of displacement based scenes are becoming within reach.

In other words the life-world characterized by an open end is rooted in the presence of objectification in combination with the ability to – making use of associative connections – install displacements in the experience.

There is yet another factor contributing to generativity. In the development means are central. Originally this had one particular function, carving in a cadaver for instance. However the features inherent to an implement transcend the original use by this opening up new possibilities. Take a hammer-stone. It can also be used to throw at an enemy, stacking up to bring something within the reach of the hands, smash a bone to reach the marrow etc. The idea is that implements have characteristics seducing to novel forms of use and as such instantiate generativity.

But there is also a side which could be considered a cost in spite of the fact it commonly is experienced as profit. Each novel use opens new possibilities, new profit, and new comfort. A spear-thrower (atlatl) increases the reach, an advantage for the hunter. But at the same time it shifts the threshold only to be transcended by a still better combination of thrower and spear. It enlarges the possibilities at the same time initiating an internal logic to do better still. The arms race is a striking example but there are others closer to home. Think of the development of dirt road in the end becoming a highway improving the comfort of driving in turn of influence on the construction of automobiles which in turn again augment the demands of the road surface etc. Or take public forms of communication: by mouth, radio, television monochrome/625 lines, colour television, HD, full HD, 4K, 6K, 8K...

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<sup>524</sup> The tower of generate and test has been mentioned earlier.

<sup>525</sup> "...of this type" refers to self initiated; as mentioned animals too experience displacements but always exited in a heteronomous way.

Properties of the implements used increase the possibilities. Habituation occurs and shifts the threshold of what is considered being the norm, being natural, in turn driving to further increase and broadening exploration. If this is a reprehensible dynamic is not relevant for the actual discussion. The aim here is only to point out this dynamic and its internal logic or drive.

The suggestion of an open end has a caveat.

It suggests two elements unified into one guise: 1) a horn of plenty, 2) at the same time suggesting that there is no end to it. It is precisely that second part that needs relativization.

Take the following analogy.

Humans hold the feeling that existence is self-evident. Life is experienced as an absolute condition not to be confused with the temporality of it. Someday they will die; humans are aware of that fact. But when alive, they experience life in an unconditional way.

But actually life is not without conditions at all. Take the need of oxygen in order to breathe enabling life. Oxygen is so omnipresent and evident that it escapes awareness. There is no end to it. Think of water for fish, it does not seem to exist at all.

Until the fish is caught and lifted out of the water or the oxygen disappears in case of land-dwelling animals. Only then the conditions of existence become in sight.

So the endlessness is actual not endless at all.

The same is the case with generativity. It seems endless. Ingenuity seems to have no horizon.

But in the sense oxygen is not an absolute condition but subject to particular circumstances, the same is the case for the characteristic of generativity. It follows from a very definite kind of action i.e. the skills of manipulation. It allows particular applications to be introduced at the same time by its very logic or system confining the reach of what is possible.

The elimination of mediated manipulation would deprive the human of what characterizes him and reduces his guise to that of a hominid amongst hominids. That is the importance of it. It is the keystone for the human condition.

A last note, generativity is not a skill as the initiation of displacement is, it is a characteristic accompanying this type of skills.

## Conclusion

Abilities are said to be responsible for the particular character of man. He has a consciousness, a conscience, and an inner personality as if it were instances working silently nevertheless productively somewhere inside. It is a conviction present in Greek thinking where essences and potencies bring forth particular features like ethereal vapours. Recall Plato suggesting that ratio is the royal way to contemplate the true nature of things.<sup>526</sup> Ideas like these make out the basic understanding maybe silently but ever so present in the actual thinking.

This contribution took another vantage point.

Abilities demonstrated and effects experienced are getting presented as the products of actions executed in the cross section of existence, assumed that the proper anatomic adaptations are in place and cultural education has been imposed.

Language is often presented as the characteristic par excellence of the human condition. As the previous pages have shown, here another suggestion has been pushed forward. Time and again object-configuration seemed to be the linchpin. That factor however does not appear in isolation on a pedestal. It came and comes into being in the relation to means supporting action and since then it cannot be thought of divorced from that setting. It comes down to the fact that what the human distinguishes from all other animals is his specific way to deal with the burdens imposed by a dynamic environment: the use of the hands supported by means.

Once started as a specific activity, applying improvements to a silex nodule, provided the basic pattern finding application in every dimension of existence. Communication occurs through the execution of an action – speaking or writing – making use of means auditive or visual. The killing of animals and processing the carcasses into food, the whole chain of activities is organised around the use of action supporting implements. Animals become recruited as efficiency improving means to move around. Much later mechanical contraptions would take over that function. It too are tools moreover construed with the use of other tools often making use of natural forms of energy again taking the guise of a supporting element. Fire is a means serving to cook, to heat or as a weapon. As a matter of fact it only became mastered after being considered as some *thing* prone to manipulation. Wearing cloths is an activity making use of means in order to obtain a goal: reassuring a comfortable temperature and a protection against possible harming impacts. There is nothing imaginable in which the pattern of mediated manipulation would be absent. That is even the case in the example of the ballet dancer. He does not express a brute instance of being. He makes use of the body as means to express in a stereotyped and formal way what he wants to transfer to the watching public. The body as a means is not essentially different than language as a means.

Mediated manipulation is the basic pattern setting man apart. It is the condition of what has referred to as a technical skilled ape. The step which would determine the final character appeared the moment the already mentioned implement acquired a secondary meaning, in origin most probably by accident but

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<sup>526</sup> For an informative discussion on this period: Lloyd, G.E.R. 1991. *Methods and problems in the Greek science*. Cambridge University Press; Hadot, P. 2004. *La Voile d'Isis: Essai sur l'histoire de l'idée de nature*. Paris: Gallimard and; Clagett, M. 1957. *Greek science in Antiquity*. London: Abelard Shuman.

experienced as a useful effect eventually intentionally organized. This step allowed transcending the being bound to the actual and the local, more still it is not allowing but imposing this ability. There is no choice as the condition follows from the development, it is inherent to it. So there is no intention, only a contingent consequence.

It is remarkable that none of the elements mentioned is problematic in kind. There is no need to assume abilities with an ethereal character as in the case of the suggestion of a mind or in a more recent naturalizing approach the possibilities emerging from the brain. The argument of complexity as an insurmountable characteristic has been debunked.

What got focussed fell back on the core or *techne* in the old Greek meaning allowing to negotiate the whole of the planet, to reach the deepest of the oceans, to linger in the highest realms of the atmosphere even to leave the world behind.<sup>527</sup>

In the end this contribution can be reduced to one single question: if it is indeed the case that man is a species amongst species close akin to the great apes, hence possessing similar cognitive abilities and similar ways of negotiating the environment, how then can the abilities the contemporary man demonstrates have been coming into being in a not problematic way?<sup>528</sup>

The endeavour to find an answer got accompanied by a second project, shedding light on the history of the mind and the cluster of concepts surrounding it. It is essential to surface and expose a series of operations alas more than often veiled by meanings with historical provenance. Removing these meanings will facilitate to lay bare the operations in question. This approach justifies a lengthy introduction discussing assumptions and meanings often taken to be evident.

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<sup>527</sup> On *techne*: in the 5th century BCE there was no difference made yet between *techne* and *epistetai*. The former refers to the skill the latter explains how to perform the execution (Parry, R. 2014. *Lemma Episteme and Techne*. In the Stanford Encyclopedia of Philosophy. The part on the negotiation is a paraphrase on Bickerton (2014).

<sup>528</sup> On the cognitive abilities: as Darwin in *The Descent* observes "the difference between man and the higher animals, however large, is one of degree and not in kind."



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# Realizing the human condition, an action program

Musings on a necessary and a sufficient condition, and on a condition of readiness

Problem

What is the human condition

Displacement as concrete instance

The character of inner speech

Learning language to apes, the experimental reality

Could the brain be the answer?

The case of the great apes

Feral children

The critical period

The much praised brain size

Other differences

The genome

The question is straight forward.

What action has to be performed here and now in order to raise an effect recognized as part of the human cognition?

## *The problem: how to realize the human condition*

In “Realizing human cognition in the cross-section of life”, the emphasis was on the conditions of possibility to realize some of the features considered uniquely human. It was about how displacement could be thought of, how the so called theory of mind – reading the mind of the other could be realized and likewise how the seemingly mysterious act of reflexion could be possible brought to life. Attention too went to the curious fact that the human is able to introduce novel ways of negotiation transcending by far the needs imposed by changes in the environment; the problem Alfred Wallace struggled with. The following contribution will focus on the concrete operations to be executed in order to fire up the characteristics mentioned. This explanation could be brief because a lot of explaining has already been offered in the “Realizing cognition (...)”.

## *What is the human condition?*

To start with it might be useful to remind what exactly is covered by the qualification “the human condition”. It will obviously be different compared to the Aristotelian eudaimonia, i.e. all these interventions contributing to happiness. Neither will it refer to virtues and abilities contributing to an active life which is more in line with the idea expressed by Hannah Arendt. Here it will be about these

characteristics which make of the human despite the kinship with some other species a very different being. This has been discussed at large in chapters comparing the world as an event to a world perceived as a set of manipulable objects.<sup>529</sup> In a few words it all comes down to the following rather operational approach:

*The human condition is characterized by an approach of taking the world as a set of manipulable units, called objects. Mediated manipulation is the basic dynamic pattern. It goes with a perspective of aboutness holding an appreciation of distance and consideration. It is further characterized by the ability to initiate displacement in space and time in the experience.*

This provides the fertile soil to bring forth imagination at will, to read the mind of others, to reflect on oneself – features explained in “Building cognition in the cross-section of life”.

Concerning the question at the heart of this discussion the easiest approach is by referring to a concrete case as for instance: what has to be performed to initiate displacement for instance?

#### *Displacement as a concrete instance*

With the explanation already offered in other texts, the answer can be short.

It comes down to the manipulation of elements functioning as stimuli of second order allowing the reactivation of neural configurations which took form in previous similar events. That results into a condition experienced. Having tasted a lemon before, signs of any nature standing for “lemon” will provoke a lemon like sensation encompassing cognitive and physical aspects.

Crucial is that some physical matter has to be manipulated. That can for instance be palpable stuff as different fabrics, smellable stuff as used in supermarkets to provoke particular sensations, visual stuff such as graphemes or audible elements such as phonemes. Graphemes and phonemes are taken to be prototypical cases, but actually anything which can stand for something else (Peirce) fulfils this function.

What is the skill of speaking else than controlling a flow of air, moving the vocal cords, the tongue and lips. Unfortunately speaking is easily understood as a natural capacity in the same sense as taking a breath or walking around is. It is self evidently presumed that there is such thing as speaking as a natural competence.<sup>530</sup> But the term is actually a higher order or overarching concept. Take painting. It refers to something global actually consisting of the manipulation of colours and fluids. But taken as one single move it becomes called painting. It is similar with speaking. There is no such thing or competence as speaking “an sich”. If studied it has to be parsed into its functional components. Occurring is the control of airflow and coordinated movements of different throat and mouth parts. Of importance for this discussion is that the manipulation of modulated airwaves – as physical means – became used as a tool, more precisely in the function of a stimulus allowing to reactivate until then dormant neural configurations which took form in early experiences.

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<sup>529</sup> In The Forgotten Transition (the introductory part and also chapter 17) and in The Supplement to The Forgotten Transition (chapters 1 & 2)

<sup>530</sup> Specialists such as speech therapists, psychologists and the like will analyse the act into its constitutive parts and treat the act as a complex operation. But as soon these contexts left behind speech will become treated as a natural ability.

Capturing the sound “milk” brings the receiver in a different condition than the sound “beer”. Being obsessively focussed on knowledge we tend to reduce the captured phonemes to it’s purely stipulative meaning, but actually it moves the receiver in all of its aspects.

The manipulation of particular means effectuates displacement in the experience and that manipulation is actually the operation to perform. In short: performing speech does the trick.

This not only goes for the explicit form of speaking but for the inner speech, the so called endophasy too. Gilbert Ryle discussed this already in “The concept of mind” (1949). But at that time it was not taken that seriously because the phenomenon was still not well understood. That changed with Sokolov in the seventies succeeding measuring variation in tension in the buccal area in the case of public speaking, whispering, inner speech and mental calculations (1972:161). Endophasy needed no longer to be considered an ethereal phenomenon appearing from thin air, but a form of action in principle open for public observation all be it with specialized equipment. Furthermore, there is a strong bond between explicit and inner speech. Following Vygotsky, Pinker and Jackendoff observe that: “One cannot have inner speech without having words and words above all are learned”. This use of words as tools to be acquired by learning stresses the nature of operations to be performed in order to bring forth the said effect. Performance is however a matter of choice. One might decide not to produce speech, an act of free will.

Alas that will not put the activity of the inner voice on halt.

#### *The character of inner speech*

Could this not mean that the inner voice escapes the conditions of executing the needed operations? Or, might there not be something more involved to endophasy than merely executing some operations?

At this point two related factors are in play here, factors discussed at large elsewhere.<sup>531</sup>

The first is about the characteristic of irreversibility. Once developed and acquired a particular skill it seems impossible to unlearn that skill and to return into the condition when the skill was not yet acquired. It comes easy to provide illustrations. Once learned a second language, when hearing expressions formulated in the said language it will be impossible not to understand the meaning. Once learned to master swimming, it will be impossible to neglect that skill – refusing to swim is of a different order. Once mastered the skill consisting of the operations needed to produce what is recognized as speaking, it will be impossible to return to the phase in which that was not the case. It is however possible to refuse to perform the needed operations. However the inner voice cannot be silenced. At this point lexical or semantic fields enter the stage.<sup>532</sup> The whole idea is quite simple. Words as reference to meaningful units do not exist in encapsulated isolation. Milk for instance will come as related to cow, meadow and farm and not to beer and brewery. It is evident that milk is seen as the product of a cow, which in turn is housed in a cowshed, taken care of by a farmer etc. In short, it does not exist in thin air, in a condition of absolute isolation despite that it is sold in isolated quantities. Implying that hearing the word, it in a sense

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<sup>531</sup> “Irreversibility” chapter II.1.3. in *The Forgotten Transition* (2018). It involves automation, implicit learning, association and the role of semantic fields.

<sup>532</sup> The suggestion of a lexical field got introduced by the German linguist Jost Trier (1931) in his ph.d. dissertation *Der deutsche Wortschatz im Sinnbezirk des Verstandes*. (Universität Bonn). It actual goes further back to ideas held by Wilhem von Humboldt and Johann Gottfried Herder.

is compromised by a payload of adjacent meanings. As such the word functions as a stimulus provoking further thought. Joining this with the characteristic of irreversibility it becomes obvious that once the process started it never stops. Going back to the previous stage in which speech did not occur is no longer possible and once a word said it functions as stimulus calling further words. The babbling never ends in spite of the fact that it is brought forth by operations.

Returning to the question in the introduction, the answer so far might be: bringing a particular experience recognized as constitutive for the human condition to life is the effect of the execution of describable operations on objects functioning as second order stimuli. It should be added that no mysterious abilities are in play.

End of story? Well, no. Because if that would be the case than the closest species akin could obtain the human condition to, a suggestion alas bumping into the wall of experimental reality.

### *Learning language to apes, the experimental reality*

In this respect different attempts to learn language or speaking out language to apes are of relevance. The history goes back to the early 20<sup>th</sup> century. In the 1930's a comparative psychologist W.N. Kellogg took the idea to raise his newborn son together with a baby chimp, Gua. The experiment got terminated early because not only the chimp adopted some humanlike behaviour but conversely the son took over behaviour from the chimp, an effect clearly not intended.

In the 1970's Nim Chimsky became the subject of an experiment focussed on exploring the possibility of learning human language. The chimp mastered up to 120 signs of the American Sign Language allowing him even to "ask" for marihuana – it was the 70ties after all. Alas the animal became aggressive in the end and could not be taught to set aside unwanted behaviours.

Other experiments executed by scholars like the Gardner's (Washoe), Savage-Rumbaugh (Kanzi & Panbanisha), Premack (Sarah) and Fouts (Lucy) showed some success. Scrutinizing the literature led to the conclusion that the results were based on a combination of imitation, conditioning and commonly underestimated implicit heuristics.<sup>533</sup> But signs about a spontaneous human like form of communication remained absent. In all fairness Susan Savage-Rumbaugh still claims that apes are able to maintain a communication with humans. This to a certain degree could be true. It is not impossible to learn some animals to engage into an interaction with a human on the basis of the "manipulation" of stereotyped stimuli. A dog can be trained to react appropriately i.e. as expected to some stimuli and conversely it can acquire "signs" to provoke a certain reaction in a human. While the range of that interactive behaviour can be richer than expected at first glance, it is far from the human skill in that realm.

These findings already suggest that performing the action of the manipulation of means in itself does not suffice to bring a characteristic part of the human condition to life. There seems to be something missing.

### *Could the brain be the answer?*

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<sup>533</sup> This is a subject in its own right. I am only offering my impression on this matter.



Let's turn for a moment to an important observation made in 2008 by Jared Tagliatela, a member of Yerkes National Primate Research Centre.<sup>534</sup> Based on similarities between the human and the chimps' brain he considers the following possibilities:

- One interpretation of our results is that chimpanzees have, in essence, a language-ready brain. By this, we are suggesting that apes are born with and use the brain areas identified here when producing signals that are part of their communicative repertoire.
- Alternatively, one might argue that, because our apes were captive-born and producing communicative signals not seen often in the wild, the specific learning and use of these signals 'induced' the pattern of brain activation we saw. (end of quote)

This would suggest that there is tremendous plasticity in the chimpanzee brain, as there is in the human brain, and that the development of certain kinds of communicative signals might directly influence the structure and function of the brain.<sup>535</sup>

It is knocking on an open door to mention that this represents a brain-centric approach but it is worth pursuing that trail for a moment.

The first of the two options mentions a "language-ready brain". On closer inspection this formulation is not as innocent as it might seem to be. As it does not express that there is an ape brain which as it turns out shows similarities in structure with that of the human which is – accidentally – able to bring forth language, but that being said, it is likely that the ape brain never engages in such an activity.

It might well be that language as a matter of fact could not at all belong to the life-world of apes. Taken this into account, the importance of the mentioned option has no sense. Ok, both seem to dispose of similar structures, but then what...?

However referring to a condition of readiness as is the case in the text quoted, tacitly and strongly suggests that language is within reach of the ape brain. And if that is the case, why then did it not occur in the evolution of the ape line? On a smaller scale, why have the efforts from the experiments not really been successful?

In the same sense anthropocentric refers to the bias that everything becomes interpreted with the human as defining criterion. In that case it could better be called language-centric. Therein all is getting considered in relation to language as the ultimate goal.

But I think that at this point and in this context the observation of a similarity is only meaningful as an observation of similarity, and no more than that.<sup>536</sup> Of course if the belief that language is a faculty "emerging" in one or another way from the brain is held high, then a similarity is an important sign, maybe even a necessity.

The second option is equally tale telling. It implies that the particular activation – read similarity - might be the consequence of the fact that the apes in question became reared in a human context.

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<sup>534</sup> Cell Press. "Chimps May Have A 'Language-ready' Brain." ScienceDaily. ScienceDaily, 29 February 2008.

<sup>535</sup> As suggested by Noble and Davidson that practices recruit structures of the brain.

<sup>536</sup> It will further be observed that Broca's region is also, probably primarily involved in fine motor dynamics of the hands.

This concurs with Merzenich et al. (1983), Rossini et al. (1994) and Noble & Davidson (1996) the latter stating that "...practices recruit the structures of the brain rather than being determined by them".<sup>537</sup>

What does that mean? Basically that in origin the brain – an organ only present in moving animals - is more or less the same but differently organized in terms of functional zones the latter defined by the practice in negotiating the environment.<sup>538</sup> Indeed the basic architectural and functional structure of brains across all mammals is apparent. That is the bottom line.

Contemporary observed differences reflect obviously changes which have been taken place in more recent times. More precisely, these differences must have occurred after the separation from the last common ancestor.<sup>539</sup>

What might these differences be about?

Based on fossil findings it is common knowledge that different groups adopted another posture and way of moving around while in first instance the basic patterns remain in place. According to the authors referred to earlier, the recruitment of brain structures follows the practice in real life situations.<sup>540</sup> New practices built further on the elaboration of already existing practices, the ability to use the hands to grasp and manipulate, exert pressure in specifying further recruitment of the said brain regions. As explained in *The Forgotten Transition* (Gilbert, 2018) this provoked a circular development: the further explored and exploited motor abilities of the grasping hand led to a reorganization of the perceptive cognitive configuration, in turn feeding back into the practiced motor skills etc.

The importance of this approach is that it diverts the attention from a view in which capabilities sprout out of the brain into the view that as mentioned in Tagliatela's second option, the practice recruits already present regions or clusters in the brain. According to some Broca's area is actually (primarily?) involved in the fine motor movements of the hands.<sup>541</sup> This might count as a relevant even decisive illustration.

All this results in what I have called elsewhere a technical skilled hominin or a condition of technical excellence.<sup>542</sup> There it was described as a development in its own right, maybe the end of a line, only by

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<sup>537</sup> Savage-Rumbaugh expresses the same in relation to Kanzi, the bonobo. "Kanzi's affair with stone has changed the structure of his musculature and wiring of his brain, for it takes two hands, operating simultaneously but nonsymmetrically, to produce stone flakes. Kanzi did not change simply by watching us. He changed through the physicality of knapping." Savage-Rumbaugh, S. Fields, W.M., Segerdahl, P. and Rumbaugh, D. 2005. Culture prefigures cognition in Pan/Homo Bonobos. *Thoria* 54: 311-328.

<sup>538</sup> Explicitly referring to movement stresses the functional character of a brain. However this is commonly recognized the idea of the brain as a causal fountain of abilities remains as well stubbornly in place.

<sup>539</sup> For a deeper insight on this matter, reference made to Small, D. 2008. *On deep History and the Brain*. University of California Press. Also of interest Cobb, M. 2020. *The Idea of the Brain*. Profile Books Ltd. Focussed on the most recent history Martensen, R.L. 2004. *The Brain takes Shape*. Oxford; and for that period absolutely recommendable is Makari, G. 2016. *Soul Machine, the invention of the modern Mind*. Norton & Co. On the level of paleoanthropology based on the analyses of brain cast from skull unearthed, a lot of work and theorizing has been accomplished by R. Holloway. Also relevant in that context, Darwin in chapter three of *The Descent* expressed the conviction that the mental abilities must have been the same.

<sup>540</sup> Recall François Jacob observing that evolution is not as much revolution but tinkering with already existing capacities. (Evolution and tinkering. *Science*, 10th of June 1977, vol. 196 nr. 4295)

<sup>541</sup> "On the basis of results obtained from modern techniques used to explore brain activity (specifically positron emission tomography, or PET), which show that the area of the cerebral cortex surrounding Broca's area is also related to manipulation of the right hand, Walker suggests that the development of this area in the first humans was an adaptation related not to speech, but to dressing stone. Mentioned in Arsuaga & Martinez, 1998:242. Also Dehaene with the neural recycling hypothesis in "From monkey brain to human brain" (2005); Dehaene & Cohen (2007).

<sup>542</sup> In *Script*, chapter 3 in the present volume.

good fortune becoming the stepping stone into another stage in which objects became associated with secondary meanings. Following that line of thought the development took the form of an up-going spiral. Of most importance for the actual discussion it would recruit even more intrusive said functional regions. This depicts the brain not as a magic source but a functional part of a dynamic in which the organism is involved.

So much for this digression on the role of the brain in relation to the question what might be missing if manipulation of means as the only intervention does not suffice to provoke features recognized as being part of the human condition.

The question what is missing is remains unanswered. Time to move further.

### *The case of the great apes and feral children*

In the endeavour to find out what might be missing, could considering why this condition only occurred in one strand of species and not in the evolution of other great apes be of any help?

To a degree the answer is already implied in the previous pages.

A first observation is about the remarkable fact that apes educated by humans in the use of symbols did not exploit this as a stepping stone into acquiring human cognitive characteristics. For instance the act of referring seldom transcended the borders of the direct perceivable environment. Further the apes never engaged in inventing symbols – things standing for other things. All were provided by the educators. However Kanzi in the end mastered 380 different lexigrams this was no comparison to a human child age four mastering about 4000 words, and an adult with at least 20.000 some even going up to 40.000. They did not teach the use of symbols to other apes. Once the educational project over and back in the zoo or some resort, the symbols learned were seldom used.

In short apes were prone to conditioning but the spark opening the gateway into further exploration did not come.

This leads to the conclusion that there could be a fundamental difference between humans and apes and/or that education is not the sufficient condition.<sup>543</sup>

This opens three possibilities:

- there is a fundamental difference between ape and human;
- there is no fundamental difference but education does not suffice;
- there is a fundamental difference and at the same time education does not suffice.

In short, these are actually two different subjects.

Secondly, the idea of development sketched holds more than a mere report on things happened, referring to an adaptation of the type of negotiation comprehending action and neural supporting interventions. Moreover as presented it took place in a phylogenetic perspective. This suggests that the work already has been done and that it – the abilities acquired – is getting transferred to the next generation ready for use.

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<sup>543</sup> On the possible difference, Richard Leaky might not be right in proclaiming that man is the 5h ape, at least man would be an ape with a twist.

But as has been made clear elsewhere, from the point of view of developmental psychology a process of formation is involved in the act of recognizing – actually defining - configurations of input as objects.<sup>544</sup> As such, the needed condition is not handed over ready for use. It is a perspective, a stance and a skill which has to be given form and acquired in the ontogenetic dimension. It reminds of a Haeckel stating that ontogeny mirrors phylogeny.<sup>545</sup> Education as an actual intervention is involved. When commonly discussed, it more than often comes suggested as an intentional and explicit form of action. It is all about parents demonstrating in exaggerated way how to bring forth particular phonemes, how to eat, how to walk upright etc. an enterprise later taking over by organized schooling.

The formative approach starts however much earlier, a fact simply overlooked. The newborn gets introduced in a context which is not only material in kind but also consists of postures, gestures, approaches, sounds and so on. This of course goes for newborn apes too but the human context is radically different from that of other animals, even from those most akin.<sup>546</sup>

This introduction in the human world is in first and most important instance implicit, immanent present in every aspect of what is going on. It becomes complemented and accentuated by intentional behaviour in turn followed by organized education. Detail of utmost importance: the template underlying the experience hence the perspective of the human educators represents the world as a set of manipulable objects while other animals are submerged in a world consisting of events. It is the human understanding of the world, a framework so self evident, experienced as natural as breathe.<sup>547</sup> This is the attitudinal and cognitive veil imposed on the child. Whatever the precondition, this installs the *Lebensform* at the most basic level.<sup>548</sup>

Not introduced into the human cultural environment from the very first moment this might be a missing factor in the case of the chimps reared by humans. Gua got adopted by the Kellog's at 7.5 months old. By this it transcends the condition coined by Wertheimer as "*die Gemeinsammens Schicksals*" which in the case of human siblings becomes under pressure around 4 months.<sup>549</sup> Chinsky was much younger, only two weeks of age when brought in the care of human substitutive parents. Alas, it neither became a successful enterprise.

The anatomical differences to the hand still serving a function in locomotion may be something else to take into account. The innate attitude of apes remains oriented to support locomotion and grasping while for the bipedal human the function of the hand in relation to locomotion had become superfluous at least when the stage of crawling has been left behind. In how far this is of importance is not clear.

### *The feral children*

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<sup>544</sup> Elsewhere, referring to chapter four in the present bundle "From figure to object, elements for a constructivist approach.

<sup>545</sup> Ernst Haeckel was a German medic, zoologist and philosopher (1834-1919) promoting Darwin's theory of evolution.

<sup>546</sup> See for instances the differences listed in the comparison the so called first world in relation to the second. (The Forgotten Transition and the Supplement to it.)

<sup>547</sup> It comes as stunning that this fact is not generally recognized, not mentioned at all in the literature. Taking this difference into account helps strongly to understand human behaviour, moreover in contrast to that of animals.

<sup>548</sup> This has also been discussed in The Supplement to The Forgotten Transition, chapter 9, *The Proof*. Further "*Lebensform*" has been coined by Wittgenstein in The Philosophical Investigation. He however used the term in a more narrow sense than here where it is taken to an anthropological level. One could think of a condition like Locke's *tabula rasa* which through cultural pressure acquires a particular and rather stable form, a character, a personality.

<sup>549</sup> For a more elaborate approach reference made to chapter 4, From figure to object, in the present bundle.

There is also the case of feral children. The literature testifies of a remarkable absence of features characteristic for a human condition despite considerable efforts made. Stronger still, they do not so much testify of an absence but of a downright inability. This would hint into the direction the importance of the early experience with the human context and of the educational intervention.

While for the apes education does not suffice for the feral children the lack of it would be a decisive factor.

#### *The critical period*

There is yet another factor in play. Wilder Penfield and Lamar Roberts, neurologists, suggested in their 1959 publication *Speech and Brain Mechanisms* a sensitivity or critical window of time for acquiring language – that is one aspect, and now the second – in a rich linguistic environment. So the optimal environment has to be present in which the language education should take place. This idea became more generally accepted after Lenneberg's publication *Biological Foundations of Language* in 1967. In short, in the case of the human the specific education has not only to occur, it has to be imposed in a sensitive period. Something similar has been suggested by Kellman in relation to the formation of the object as a perceptive cognitive configuration. It has to occur before the end of the third year of age. After that acquiring the needed interpretive competence becomes difficult. Cathleen Moore, professor psychology at the University of Iowa, adds that if that threshold has been transcended the candidate finds himself in the same condition as someone who later in life tries to learn a second language.<sup>550</sup>

#### *The much praised brain size*

The difference between humans and apes is absolutely not clear cut. Referring to the brain size is a popular candidate. However as Preuss points out, there is little evidence for a causal relation between brain size and human cognitive abilities.<sup>551</sup> Klein makes the striking observation that the maximum brain size was obtained long before the emergence of modern human behaviour.<sup>552</sup> Strikingly accordingly to Jeremy de Silva the brain size of humans decreased since the last ice age while testified by technical innovations the intelligence must have increased.<sup>553</sup>

Moreover from the perspective of brain-body mass ratio the mouse equals the human. On the other hand the evolution of the volume of the skull reflecting brain size can't be meaningless. Ongoing practices not only recruit the structures as Noble stated but must expand and reinforce functional regions concerned. In that sense the following must be tale telling. Lucy's skull for instance indicates a brain volume of 450cc while that of the modern human situates between 1100 and 1650cc. That cannot be noncommittal. On the other hand, the estimated volume of the Neanderthal counts between 1500 and 1750cc.<sup>554</sup> Concluding that the Neanderthal had a more performant brain seems far fetched, doesn't it?

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<sup>550</sup> Chapter 3 *Does the concept of object reflect a natural kind or a construct?* In the part *On the Object*, the present volume.

<sup>551</sup> Preuss, T.M. 2005. What is it like to be human? In *The Cognitive Neurosciences*. 3rd. Ed. (ed. Gazzaniga, M.S.) MIT Press.

<sup>552</sup> Klein, R.G. 1999. *The human career: human biological and cultural origins*. University of Chicago Press.

<sup>553</sup> *Frontiers in Ecology and Evolution*. 22 October 2021.

<sup>554</sup> For an accessible publication on data on the evolution, on amongst other things brain size: Condemi, S. & Savatier, F. 2018. *A pocket history of human evolution*. Paris, Flammarion.

Anyway, stating that qua cognitive abilities the human is superior in an exponential way is knocking on an open door. In *The 5<sup>th</sup> Ape*, a chapter is dedicated to the role of the brain stressing that it is rather coordinating and supporting than causal.

#### *Other differences*

Actually there is a lot of difference between apes and humans. The foramen, the hole at the bottom of the skull where the spine enters, is differently positioned. The zygomatic arch functionally related to muscles for chewing is much larger in apes. The slope of the face is different. The forehead in apes is rather flat, almost non existing while in the human it is clearly expressed. Apes have a hairy coat, absent in humans. Humans have a pronounced chin, apes do not. The implantation of the teeth is different too, a v-shape versus half circular. The pelvis is different which is related to the gait at the same time with consequences for giving birth. The arms of humans are shorter. The hands have the same parts but somewhat different organized. The same goes for the feet. The knee shows differences; in humans it can be locked. Etc. All these differences are not merely morphological expressions, phenomena. They are one side of the coin while the other is concerned with practice and functions performed.

#### *The genome*

The genome is another hot topic. Varki and Altheide published an article in 2005 with the tale telling title *Comparing the human and chimpanzees genomes: searching for a needle in a haystack*.<sup>555</sup> In the conclusion he states that understanding what makes us evolutionary, biomedically and cognitively different from chimpanzees will require extensive comparative phenomics to complement the comparative genomics. While a lot of attention if not hype has gone in the direction of the latter, this author – specialist in studies on the genome – stresses the need for a focus on phenomics. That implies two things. First, the differences causing difference in cognitive abilities are not clear at all and secondly, phenomics refers to the study of how the environment and a lifestyle interact with the expression of the genes influencing health. The context is medical after all. But nonetheless the importance of behaviour, in our context the way of negotiating the burdens of the environment, is getting stressed.

#### Summarizing

- a) the so called feral human children who did not enjoy a human education seemed to be unable to acquire the features mentioned;
- b) primates most akin to the human species up reared by humans did neither develop the features in question.

The case made by the feral children allows to conclude that the human type of education is an absolutely necessity while for the apes it does not suffice.

It needs to be added that for the education to provoke the desired effect it has to take place in a particular window of time and, the human setting or life-world has a very particular character colouring the process of education.

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<sup>555</sup> Ajit Varki is professor cellular and molecular medicine at the UC San Diego School of Medicine. The publication mentioned appeared in *Genome Research* 15: 1746-1758; Cold Springs Harbor Laboratory Press.

The difference between the Pan species, bonobo or chimp, and the human line of descent remains an open problem. The line of argumentation in the previous pages suggests strongly that apart of life-world and education there is yet another factor which could be decisive in play.

The pertinent question here is decisive in what sense? It is tempting to follow the interpretation commonly attributed to the brain: as a causal fountain from which by a magical touch cognitive abilities sprout. But I think it is more reasonable to consider that mysterious set of adaptations as a complex of parameter settings providing a facilitating function for the child that will be caught by education.

Does it matter? Yes in the sense that it seems to hinder apes to set the step the human line did.

It remains an intriguing conundrum inspiring to further ponderings in "Conditions of readiness" below.

But it does not really in the perspective of the actual context wanting to explain what has to be done in the actual slice of time in order to realize typical human cognitive skills such as provoking displacement in the experience, by this opening the floodgates of imagination at will.

Without hesitation the answer will be: applying goal directed mediated manipulation, in particular in the guise of executing speech acts or graphemes. Concerning speech it is about the production and manipulation of sound waves functioning as second order stimuli.

For many this answer risks to come as all too simple.

But assume for a moment that there was no such skill as speech. There would be no manipulation of phonemes in particular in their function as stimuli of second order. Hence, there would be no self induced displacement in the experience. There would be no enrichment and expansion of the life-world experienced, no imagination. There would be no narratives and no declaration. There would be no pondering upon but pure engagement and entanglement as in the animal mode.

It would be as if the wheel never had been invented. No wheel, no rolling transportation.

The same goes for the manipulation of graphemes. It goes for any means prone to manipulation and functioning as a 2<sup>nd</sup> order stimulus.





# Conditions of readiness

*Intro*

*The stepping Stone*

*The role of the hands in cognition*

***Intro***

The previous section explained what exactly had to be done to provoke features characterizing the human condition. However the main subject, most of the attention got absorbed by the fact that there must be an extra factor in play. Looking for an answer, differences between the human and the species most akin passed the review. None however seemed to provide a satisfying answer. It stimulated to ponder further on this problem. It starts from the first possible point of entry.

***The stepping stone***

The conditions making out the environment provide at the same time the conditions in which life is possible. As such the concrete form of a living organism is a derivative of the condition of possibilities expressed by the environment.<sup>556</sup> This enabling of life could be considered the basic step.

Hooking up to different parameters in the environment life provokes different forms. Some connect with water while others fit the density of air. Others again become carried by solid ground.

While living organisms are as explained functions of the environment i.e. only possible by the conditions constituting the environment, the negotiating interventions of the organisms exert in turn pressure on the environment by this changing the conditions of existence.<sup>557</sup> As such once an organism present, two determining factors interact reciprocally. Changes in the environment such as volcanic eruptions, meteorites crashing and drastic climate changes are one side; the operations of the organisms on the environment effectuate are the other. The pressure of changing circumstances change the form of the organisms hence their mode of negotiation changes too. This has an obvious but not to overlook characteristic.

Take Lucy for example. However she is considered to be somewhere in the line of descent which eventually would result in the modern human species, she would never have been able to do what modern humans are able to and conversely modern humans could never bring forth the way of life Lucy mastered.

Take another example. Early hominids could eat and digest raw carrion. At some point broken silex nodules with a sharp rim allowed to slice meat and supported the function of the teeth in devouring it. Over a considerable span of time this provoked changes in the type and organization of the teeth. Taking a giant step further in time having mastered fire, food became cooked and by this pre-digested. Meat and

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<sup>556</sup> Boiling water is the condition of possibility to bring forth a boiled egg; the latter is a derivative function of the water boiling. It is a dynamic relation. The being of a living organism has to be taken in the same dynamic sense.

<sup>557</sup> The actual climate changes provoked by an excessive use of carbon fossils provide a tale telling example.

roots becoming tender also had effect on the teeth, moreover on the whole of the digestive system. As modern humans cannot take up the functions Lucy fulfilled, the hominine skilled in the use of stone tools and cooking food – which changed the anatomy and physiological workings, would have had difficulty in adapting to the life style predating these skills. It will be evident this is not about making decisions but of a changed constitution.

The development described could at the same time be considered a loss of existing and a gain of new competences. There is however a remarkable characteristic. The new forms such as the making and manipulation of stone tools and the mastering of fire are not innate but have to be acquired by apprehending skills in a social context. Observe the two lines: the digestive system changed for instance, while the proper actions to accommodate this style have to be learned. In short, changes on the level of anatomy and physiology have to be complemented by cultural interventions.<sup>558</sup> For the hominina for instance the form of the pelvis, the arms, the legs, the knees, the feet and most important the hands changed, while abilities going with all these changes had to be brought to expression by social imposed education.

It makes it seem that the condition of the body of a newborn is stuck halfway. It lost competences from the past, exchanged for adaptations in the direction of the new lifestyle of his species, a lifestyle which has to be apprehended by interaction. Could this halfway condition rightfully be called a readiness?

### *The role of the hands in cognition*

But what about cognition, does development in that domain also reflect in changes in morphology expressing what has been suggested as a kind of readiness?

Thinking on cognition what first comes to mind are operations on concepts with an imaginative content like making a choice between alternatives, solving problems, planning future actions or even solving formal equations. Interventions like these are commonly considered to take place in the realm of the mental. But these are cases of what is ultimately possible. It is the high end mode of cognition. To answer the question one should start at the other end, exploring the conditions occurring at the beginning of the development.

Cognition in the bud, maybe not even qualified as such, is involved in strategies of negotiating the burdens imposed by changing circumstances of the environment.<sup>559</sup> At the lowest level that is determined by the abilities of the body in relation to the condition or event to be tackled. The hominin in question came from a life in the tree tops already possessing hands skilful in grasping. Being fully bipedal the need for the upper limbs to support locomotion became superfluous. As such the hands already possessing a particular skill became the first line interface in dealing with the environment. The hominin was not completely helpless, not without means. The existing abilities of the hands could be considered a degree of readiness consequently defining the approach of the environment. The nature of the heuristics

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<sup>558</sup> Take domesticated cattle at this moment. The body of a cow under the pressure of imposed selection methods became thus that the animal can no longer give birth to a calf in a natural way.

<sup>559</sup> The qualification takes place after having analysed an event into different aspects according to certain criteria. Following from the manipulation of imaginative contents this in itself is actually already an instance of highly developed cognition. At stake here are conditions prior to that.

answering the challenges imposed by changing circumstances was practical. Using an inappropriate expression it could be said to “follow the logic of the hands”. That is the bottom line.

At this point the quote by Maslow explaining that when only having a hammer every problem will take the form of a nail is more than anecdotic. When negotiation of the environment is the problem and hands are the first means available than the abilities, the logic or the system following from it provides the defining approach of what is “at hand”. This commonly used expression is not that coincidental.

Hence considering cognition, it is in the first place embedded into the possibilities of the hands.<sup>560</sup> The form and the logic involved is so to say the alpha and omega from which it, cognition – as the whole of coping with disturbances occurring in the environment – sprouts.

In that context accidental mutations changing the hand morphology in a way advantageous for that project – the hands as interface with the environment – remained.<sup>561</sup>

This fact is observable in at least two ways. Firstly as mentioned in discussing the morphology of the hands becoming different to these of apes and, in relation to that, the increase in the degree of skilfulness in the manipulation of entities most importantly the making and use of stone tools. Secondly on a broader plan, that becomes apparent in the different way the hominina negotiates the conditions of the environment.

With this as bottom line we can now return to the question of how cognition could become understood.

Taken literally cognizing in first instance refers to recognizing, that is the fitting and by this reactivation of neural configurations consolidated by previous experiences allowing to engage in successful answering motor programs. Broadening the perspective it encompasses the heuristics and strategies involved in negotiating the burdens imposed by the environment.

So far we have two stages: negotiation of the Umwelt and in this considering the said Umwelt as a set of manipulable units, an orientation and approach following from the hands as first line interface. Because we are actually trying to circumscribe the condition of readiness, the following is not really relevant but because of completeness it will be mentioned anyway.

A third stage has found development. In time the manipulable entities acquired a secondary function. As substituting stimuli they allowed provoking displacements in the experience and by this an imaginary realm. This is not the place to elaborate on this, but that is actually the dominant dimension when the character is talked about.

It deserves repetition, the hands as determining interface and the first two stages mentioned are of importance in the actual context.

Recalling the question, as in the case where the changes in the teeth and in the digestive system could be considered to indicate a condition of readiness – which should be complemented by education in ways of feeding, what could be the similar condition on the level of cognition?

First and foremost, that is the morphology and the functional readiness of the hands. The form is focussed at grasping with precision. What and how entities are to be grasped, which “logic” is involved are the subjects of education. A young child not having learned to handle a pair of scissors will struggle in using

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<sup>560</sup> This subject has been discussed in the bundle “ON”, sub “On Meaning”, sub “Hands and imagination”.

<sup>561</sup> On the morphology of the hands see the numerous publication by Elisabeth Marzke. Sergio Almaceja also offers interesting insights on this subject.

these in the right way. There is the quality called affordance, the intelligence offered by the scissors themselves but having been shown how to handle the implement will make a substantial difference. Secondly, the newborn will not find him confronted with an absolute null situation, a contextual blank slate. The environment has been preformed in a particular sense by the previous generations. It is a complex scene of affordances of which the child is not aware, but the all pervading affordant organization is a fact which cannot be overlooked. Like the occurrence of rain provokes a particular kind of behaviour; in a similar way the context characterized by civilization will provoke certain behaviours.

Concluding, the key moments are:

- the hands are the first line interface in dealing with the environment;
- the changed morphology has to become complemented by learned behaviour;
- the context is preformed in a particular way.

# On boredom, symptom of the human condition

*An anecdote*

Missed connection and had to wait an hour for the next train. Silently pondered what I would be doing to fill the gap.

That question sparked a light bulb moment.

I felt confronted with an emptiness i.e. there was nothing to do – as if it was the natural condition that I should be doing something. Doing as the core of my existence. Contrast this with the condition of a cow: standing, grazing – questioning or pondering (what to do) absolutely absent, stronger still because absence would imply an occasional presence. That condition in the existence of cattle does not occur at all. While I, being human, do not merely exist but feel or more precisely reflect on emptiness caused by the failing of doing something. It unveils the fundamental mission of having to do something. It is the instantiation of the human condition. It is the human condition in action. While the cow *is* existence I *have* to do something, altogether a very different stance.

It at the same time became clear to me what the nature of boredom is. The condition raised by the failure in doing something; the fact that I could not fulfil the fundamental (human) mission of “doing something”, performing some action, having something on hand, having to do something with the hand! The hand exposing itself as the catalyst in raising the human mission of doing something.

There is the irreflective fully being of the cow whereby existence and action collapse into an undivided one while for the human there seems to appear a realm in front of him in which he has to do something. Having nothing to do provokes a condition of boredom.

How tale telling could that be?

There is an important note to add.

It could be argued that if it is indeed the case that the human condition is expressed by the urge to engage into action then an action engaged into should provide satisfaction and dissolve the experienced void. This is indeed the case and it is actually what is meant Marx when referring to labour resulting into what he calls “Gattungswesen” or species-essence in contrast to alienation.<sup>562</sup>

But there is more to it. The human condition is the always present stance orienting and guiding the human into the manipulation of things. Hence it is not only the effective executed act of mediated manipulation as in Marx’ authentic engagement into labour; it is also the stance, the essential orientation onto the world, the attitude of having to engage in some form of mediated manipulation. The proof for this is the fact that despite the ongoing inner babbling which actually is brought forth by a mode of mediated manipulation – by this doing something anyway, the stance of having to do so remains present.<sup>563</sup>

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<sup>562</sup> Of course what Marx means by the essence of the human species and what I mean from a technical anthropological approach as explained in *The Forgotten Transition* and in *On the Human Condition* as part of the *On-series*, will not exactly be the same. But it is striking that he considers labour, in my terms as a mode of mediated manipulation as the essence of the human being.

<sup>563</sup> It should also be taken into account that inner speech and the provocation of semantic fields is part of an automated process.



# On the human psyche

*Musings*

## **Introduction**

Instead of taken “psyche” blindly for granted as if it was a natural kind having a real existence in its own right we should in first instance ask ourselves “what is it after all?”

Once the trap of looking for essential characteristics avoided “what is that what is called psyche”, the answer is open and exposed: it is in the first instance a concept. But a concept is a construct and no construct is appearing out of thin air hence, what is the background providing structure and content to it? Again the answer is not far to seek. It is brought forth by a particular structure providing template in this case dualism.

An approach like this does not allow assuming that I would know what true nature lies behind the concept. What I know is that psyche is a concept and I have a good idea of in what historical context it came into being, but that is the end of the embodied reach.

Being able to discern features, it is understandable and acceptable that different characteristics of an organism became distinguished and ordered into different groups. However the line becomes crossed the moment these groups are getting presented as units having a real existence and radically divorced one from another. As such there is no longer one organism with different aspects, but an organism consisting of two very different parts: the body and the psyche. This is not an exaggeration as is getting testified by the almost desperate efforts in trying to relate one to another. Remember Descartes struggle leading to the suggestion of the pineal gland as bridge. And for what it is worth, the literature is full of terms like mind and mental referring to instances really existing somewhere, a sphere complemented by hallucinate suggestions such as emergence an apparent white rabbit out of the hat of the magician, supervenience and the like.

The previous insight unveils the fundamental character underlying the distinction. Alas the problem does not disappear because it became engrained so much in the common understanding that a) body and mind are taken to be real existing instances, b) very different almost radically divorced from one another in spite of the fact that the one can not exist without the other.

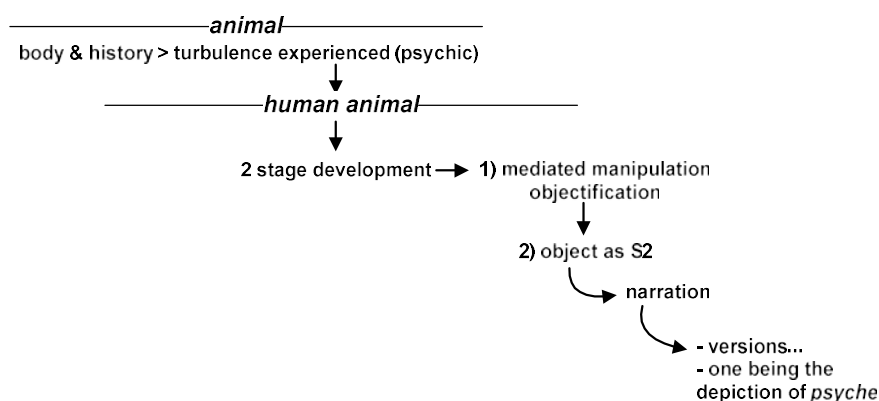
Despite being taken this way, the topic to be discussed did not evaporate.

Taken for being real the question on the differences between the psyche of the non human animal and the alleged psyche of the animal remains?

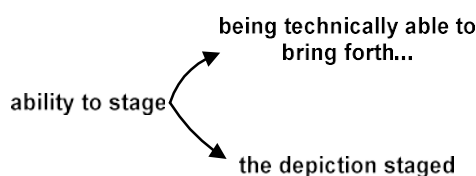
## **Discussion**

The initial condition is the one shared with other animals. In that case the turbulence labelled psychic is determined by the anatomic and physical abilities of the body as source. It is further brought into a specific form by the history of the species in general, the individual animal in particular. In the case of the

human as mentioned there is an extra layer. The qualification “extra” should no be understood as something which can be isolated and can be considered in its own right like a GPS added to a car. Extra refers to abilities already present as a bud however transformed opening the gateway for new applications to come into being. The core of the transformation consists of two consecutive layers. In first instance there is the development of mediated manipulation resulting into objectification in the domain of perception and cognition. That is getting followed by the object taking the function of a substituting or second order stimulus (S2). This has been discussed in depth in other contributions.<sup>564</sup> The latter development opened the opportunity to compose narratives.<sup>565</sup> This depiction or delineation scaffolds a basic understanding of the concept of psyche.<sup>566</sup>



From an analytical point of view for the ability to compose narratives two dimensions are to be distinguished. On the one hand there is the technical ability to bring forth a staging and on the other the content or the depiction offered by the staging.



Discussing the character of the depiction staged two features should be considered.

First, there is a cultural imposed *model* – stress on model - considered to be the standard view underpinning the understanding of the world. It is as said imposed on and accepted by the members of the community as depicting the natural condition.<sup>567</sup>

<sup>564</sup> Discussed in depth in *The Forgotten Transition*; in *Building cognition, objectification as linchpin?* and also in *Beyond the material engagement theory*.

<sup>565</sup> Discussed in *On storyline, setting the human apart. The proper perspective on reality*.

<sup>566</sup> On concept see *The concept of concept*, in *Realizing human cognition in the cross-section of life*; on psyche: *Mind, what are we talking about?* In *Unveiling the mind*, three contributions on the road to demystification.

<sup>567</sup> Naive realism.



Secondly, taken to be natural it resists any consideration of being relative, of being merely a version. Any attempt to this end provokes a condition in German coined "Glaubensunwilligkeit".<sup>568</sup>

One could further ponder, if all belief systems or descriptions are versions, which do occur?

The first imposing itself is the one experienced as the default version and in the periphery those deviating from it. It should again be stressed that the default version is but a version and not an effort to procure a one on one description of the world as it is assumed to exist objectively out there.

The worldview fostered today in the Western culture is considered to be the natural condition which in other contributions has been unveiled as a historical construct.<sup>569</sup> Cutting corners, it is but a possible version on closer inspection having different aspects. For instance, there is the idea of an inner self, an inner personality with a private character and consequently only accessible to ourselves. The belief in a higher power as the source of and overlooking all what exists is another aspect taken for granted by some. The view of an organism consisting of two parts, at least two dimensions – body and mind, is yet another. There also exists a psycho-dynamic version which only can be understood against a particular historical background but however taken to mirror a natural condition. There is a storyline resulting in a feeling of guilt and another glorifying motherhood.<sup>570</sup> Illusions and hallucinations are considered to be aberrations however they are the fruit of a different way of selecting and organizing input caused by the taking of drugs of some particular neural constitution. Versions come in different flavours.

But focussing on the content of the version threatens to divert from the core which deserves all attention.

That is the fact that the meaningful content being a the version is a construct, from a technical point of view interchangeable but on the other hand not completely free at will.

This implies that within the possibilities of the system - being manipulation of secondary stimuli, any version goes. The value of a version does not depend on the technical characteristics but of the valorisation by the holders.<sup>571</sup>

Every version results in an effect.<sup>572</sup> But as a version is technically interchangeable so are the effects. That is exactly the idea underlying in Cognitive Behavioural Therapy (CBT). Depression or a feeling of deep guilt can be caused by adhering to a particular explaining scenario. Adapting the storyline is the obvious solution in that case. Suffering from insomnia often results in becoming visited by one's demons. These are embedded in a particular script which brings forth conditions of sorrow and fear. On closer inspection there might be a minor problem by the script becoming blown up to outrageous proportions, there might be even not a problem occurring at all.

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<sup>568</sup> At this point the model offered by Milton Rokeach "Open and closed mind; investigation into the nature of belief and personality systems" (1960) comes to mind (no pun intended).

<sup>569</sup> Mind what are we talking about?, Toulmin, S. 1979. The inwardness of mental life. The University of Chicago Press. *Critical Inquiry*. Vol.6 No 1

<sup>570</sup> On Motherhood, Badinter, E. 1980. *L'Amour en plus; Histoire de l'amour maternel*. Flammarion.

<sup>571</sup> As explained in Storyline, setting the human apart.

<sup>572</sup> Christianity for instance provokes love for the other, guilt, penitence...

The aim of this brief exploration is to sharpen the awareness for the fact that the understanding we have of the world is but a version, a particular way of selecting and interpreting what can be caught by the senses. It is our way of understanding, imposed by the culture we are born in, acquired by personal history.<sup>573</sup> It provides the basic register of concepts and ways of building scenarios allowing to interpret. It will be obvious that this kind of staging not necessarily corresponds with what is actually going on or what in an interaction is meant by the others.

How often did we not experience that predictions of future events which when push comes to shove, turn out completely different. The particular staging may even reach further. It not seldom functions as a self fulfilling prophecy which not necessarily has to turn into disaster. Believing in a certain condition may as well be a motivating factor supporting the realisation of the desired effect.

The bottom line is not only that models such as “psyche” are constructs with historical provenance, but that awareness of this provides a handle allowing customization, even adaptation into a completely different view. That does not imply that change will be easy often even so engrained that it will be impossible, but the insight could at least open the window ajar.<sup>574</sup>

The demons of the night are demons indeed, nothing but thin thoughts projected on a scene which does not look like it at all.

It feels appropriate to round up with a quote borrowed from J.S. Mill:

“The tendency has always been strong to believe that whatever receives a name must be an entity, having an independent existence of its own, and if no real entity answering to the name could be found, man did not for that reason suppose that none existed, but imagined that it was something peculiarly abstruse and mysterious, too high to be an object of sense.”<sup>575</sup>

The idea was to direct the attention on the difference between the human and a non human animal on that topic. It was said that the non human animal too had a particular version defined by the abilities of its body and by its individual history. The human is no exception. However he becomes special in that he acquired the skill to enrobe that condition in a narrative. At this point there is a fusion taking place whereby the “animal” condition is getting transformed in some version which is in a technical sense arbitrary. Technical because any version as a version is as good as any other version. However as in a therapeutic setting the version can to a degree be chosen, they are not really free to pick as they are given by the larger social context. And further changing a version which was imposed since childhood is not an easy task.<sup>576</sup>

It is obvious but beyond the scope of this brief note that the relation between the animal condition and the human transformation providing it with a particular dressing is subject for further exploration. In that respect sublimation might be an interesting subject.

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<sup>573</sup> Mind what are we talking about? The remarkable characteristics of Western thought plus illustration.

<sup>574</sup> Rokeach’ model mentioned earlier.

<sup>575</sup> Mentioned in Ogden, C.K. & Richards, I.A. 1923. *The meaning of meaning*. New York: A Harvest Book.

<sup>576</sup> Open and Closed Mind, by Milton Rokeach (1960) offers a good model in that respect.

# On reflexion

## 1. The problem

Without any doubt “cette distance nulle” might be considered the most amazing even baffling experience of being human. This circumscription coined by Sartre referring to experiencing a distance where in fact there can’t be any, is indeed a most puzzling condition. How is it at all possible that I am able to bring forth a declaration about myself – as if I was some instance over there hence divorced from the very action of reporting, while the subject supposed to be over there is actually in the midst of executing the said act. How can I be one and dual at the same time?

This wonderful even queer occurrence is what is referred to by “reflexion”. It is as a matter of fact a particular form of a more basic “reflection”. Reflect with a c refers to the act of considering some item present in the world experienced. It becomes reflexion with an x in case the item considered is the person, an action executed by that person or a feature of him or her. Reflexion is only different from reflection by the item considered. In both cases it refers to a stance taken, considering about something supposedly being there. It always expresses aboutness.

In the common appreciation there is something odd about this. It on the one hand seems to come as the most bizarre condition escaping understanding while on the other it is getting referred to in a quite thoughtless manner, as if it was an occasional condition which is rather common and even could be left out if one chose to do so. It tacitly implies that it is equally possible not to take that stance of reflection, leaving out aboutness altogether.

Raymond Tallis observes rightfully “Aboutness sounds harmless, or even banal. However, it lies at the heart of what it is that sets apart animals with complex consciousness from the material world.”

“Stanford” in turn sees aboutness as part of intentionality and circumscribes it as follows “Intentionality is the aboutness or directedness or reference of mind to things, objects, states of affairs, event. (...) your mind, your thinking is directed to...”

“The term intentional is used by philosophers, not as applying primarily to actions, but to mean ‘directed upon an object’. More colloquially, for a thing to be intentional is for it to be about something. Paradigmatically, mental states and events are intentional in this technical sense... (...) What is at once most distinctive and most philosophically troublesome about intentionality is its indifference to reality. An intentional object need not actually exist...” (Lycan, in Wilson & Keil, 2001:413).<sup>577</sup>

All this offers at the same time a pertinent and a problematic approach. Problematic because this type of description is overflowed with mentalist terms surpassing itself in vagueness. It is alas the style

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<sup>577</sup> [https://philosophynow.org/issues/132/About\\_Aboutness](https://philosophynow.org/issues/132/About_Aboutness). Consulted May 9th, 2022. R. Tallis is a general practitioner, neuroscientist, philosopher, emeritus professor of Geriatric Medicine at the University of Manchester. On the subject, the heading *Consciousness and Intentionality* in the Stanford Encyclopedia of Philosophy is highly recommended. <https://plato.stanford.edu/entries/consciousness-intentionality/>.

omnipresent in the literature. It is pertinent too because in a few lines all relevant aspects are put in scene. Directedness, aboutness and the view from a distance are indeed intimately interwoven.

How could the condition of being the actor at the same time the “object” observed become explained avoiding the use of mentalist language?

The following contribution wants to provide a few steps to do precisely that.

## 2. The impetus or the drive

The first question arising is about the direction into which the view or the action is led. Fortunately this is not hard to answer. Darwin in the last paragraph of “The origin” already considered:

“It is interesting to contemplate an entangled bank with many plants of many kinds, with birds singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth, and to reflect that these elaborately constructed forms, so different from each other, and dependent on each other in so complex a manner, have all been produced by laws acting around us. These laws taken in the largest sense, being Growth and Reproduction (...)”<sup>578</sup>

In short, any living organism is motivated to maintain the condition of being alive in a fluctuating environment. That motivation is thus that it actually can be taken to be identical to life. There is no condition of being alive that consecutively would not be motivated. Life and motivation are one.

That is the first most basic and all encompassing condition.

In the light of this the so called binding problem is incomprehensible. The APA dictionary refers to as follows “the theoretical issue of how the brain perceives and represents different features, or conjunctions of properties, as one object or event. This is problematic because different attributes of a stimulus (e.g., hue, form, spatial location, motion) are analyzed by different areas of the cerebral cortex and yet are experienced in consciousness as a unity; the binding problem is relevant in all areas of knowledge representation...” It seems as if there is some subject with the mission of making a meaningful scene out of a (large) set of unrelated units. That kind of view is not without grounds as I will explain further but it completely seems to neglect the fact that a) the abilities of the body function as a selective sensible filter, while b) the primary motivation selects from the available input these elements relevant to satisfy the condition of the said motivation.

Hence, there is always a drive and a direction present.<sup>579</sup>

However in the course of the development into the human species a second layer has found implementation. The use of second order stimuli allows composing freely different configurations and discourses. In this case indeed the different elements are laying around passively. The occurrence of different words for instance does not force into the organization of a particular storyline. There is no direction, no drive and one might experience this condition a problem, a binding problem.

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<sup>578</sup> Radu Bogdan in *Grounds for Cognition* refers to systems genetically programmed to maintain themselves and to procreate. (1994; Erlbaum) Ramachandran and Blakeslee in *Phantoms in the Brain* (1998) coins evolutionary goals. The amygdale and the limbic system ensure that the brain serves the basic goals of the organism.

<sup>579</sup> For a similar point of view: Rensink, R.A. 2000. Seeing, sensing and scrutinizing. *Vision Research*, 40, 1469-1487.

Concluding, a living organism does not depart from empty space. It is motivated from the very first moment; in fact being alive might be considered synonymous with being motivated.

### **3. The directedness**

Being driven is only half of the story. It implies displacement and that occurs unavoidably in a certain direction. Following from the previous is that the sense of the direction neither poses a problem. The condition of the primary motivation determines what is of relevance in the sensory field; hence the direction to take.

### **4. Aboutness**

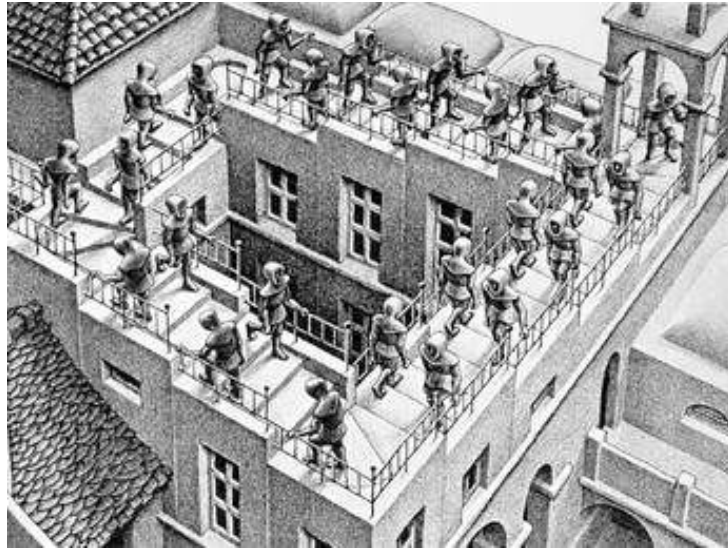
Aboutness is a particular mode of directedness. It comes down to directedness with a special character. It is the drive (1) and the directedness (2) as a particular stance. It is a view in a certain direction but from a particular vantage point. It is in terms of topology a look from above – looking down onto something; in terms of character it comes down to a stance of consideration.

Another contribution, the second essay in “On Aboutness”, explained how animal entanglement changed into a condition characterizing the human. By the thorough practice of the hands the latter underwent a perceptive cognitive reorganization of the sensory field. That got rearranged into a set of manipulable units. Aboutness then is the name for the particular way of considering these units, either evaluating the suitability in view of adaptation into an action supporting implement or the particular way to could be involved in some action. Aboutness then expresses a view of consideration, of estimation and of evaluation.

These three elements only discerned here for the purpose of the discussion constitute the basic condition allowing the bring reflection and reflexion as it specialism on the scene. In a sense for this contribution they are given providing the stepping stone allowing further clarification.

### **5. A necessary distinction**

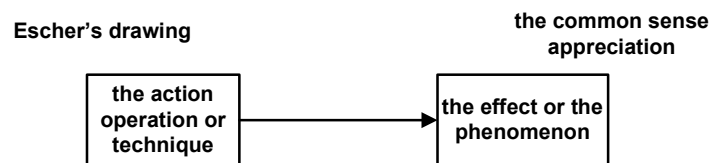
In other texts I already referred to the remarkable drawing by Escher of figures ascending and descending.



He made variations on this taking the form of water flowing up. What I want to point out is that the movement suggested defies the laws of physics and is on the level of understanding counter intuitive. But at the same time the drawing as drawing is technically perfect.

It demonstrates that what is getting presented as a unity covers in one go a technical and a phenomenal component. The technical realisation can be appreciated without any problem, what is brought to life in the drawing is puzzling to say the least.

This can be captured by the following scheme:



I think it already will be clear where this is leading to.

The conundrum mentioned in the introduction shows similarity with Escher's approach. The introduction showed an actor as operator which unquestionably cannot be anything else than one single unit, one dynamic organism experiencing the situation as deduplicated, being actor and object of discussion at the same time.

It is almost like the baffling entanglement in quantum physics. It appears that I am "here" engaged in some action and I am at the same time "there" as the subject of that action.

## 6. The explanatory steps

How do we get from the context sketched out to an understanding of what is called "reflexion" in terms of operation and effect?

The steps further on offer will take the form of ideal schemes of possibilities. Secondly, when hominin or human is mentioned this also refers to an ideal scheme referring to stages in development. Thirdly, one should be aware of the fact that the whole of the process comes an enormous window of time. By way of comparison, the industrial revolution fired up about 250 years ago. The stone tools found date from 3.3 million years back for Lomekwi, 2.4 million for Oldowan, 1.6 for the Acheul type and all further variants only passing into the merging of ore around minus 5.500 years. Stone adzes were in use until quite recently.

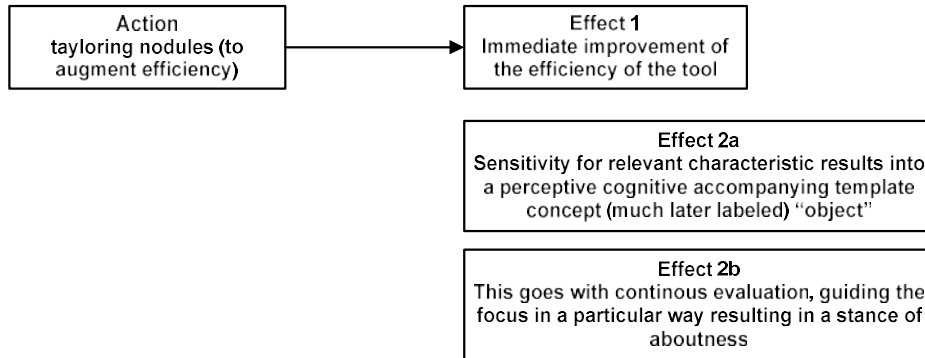
Meaning that the trajectory offers a sketch of alleged steps not out of the blue but based on what can be deduced from archaeological findings. This has been discussed in detail in other publications. The goal set in this contribution is to unveil the apparent mysterious character of the condition coined reflexion.

### **6.1 The forgotten transition**

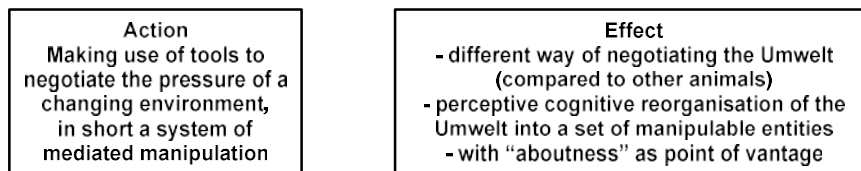
There are some preconditions listed in the scheme below. Importantly the hands are apt for manipulating implements which support action as in a hammer-stone used to open the shell of nuts. As chimpanzees are to some degree familiar with the use of action supporting implements, this practice is not even original. What struck paleoanthropologists was finding nodules which showed signs of tailoring, moreover standardized tailoring. It is precisely that feature drawing the attention and regarding these as "tools". With tailoring as action the assumed effect in the first place is quite evidently the increase of the efficacy of the implement – why would these creatures otherwise have engaged in the operation of adapting an implement? But and here we engage fully in deduction, relevant characteristics must have drawn the attention and this way gradually given rise to the consolidation of that pattern. In first instance bound to this particular situation, tailoring nodules, gradually becoming generalized in relation to all what fitted the hand affordant to be manipulated. Again, this subject has been discussed at large in other contributions and secondly always the enormous window of time should be taken into account. The act of tailoring influenced the reorganisation of the input into particular "object" patterns in yet another way. It realized a stance of judging the efficacy of the blows applied onto the nodules; a stance comprising estimation and judgement making that what got outlined as an object in the perception appear to stand on a distance in front of, and in the act of judging also with a view from above. Nowadays all of this is getting covered by one single word: consideration.

**Precondition**

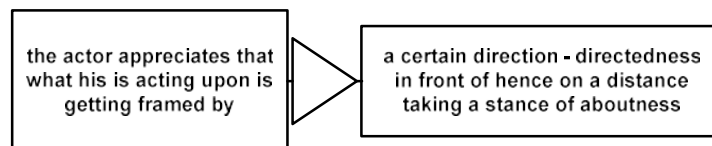
- climatological and environment pressure
- hominin already proficient in the use of the hands
- having exchanged quadrupple locomotion for bipedal mode further capacitation in the use of hands
- use of tools probably not a novelty (considering the practice chimps )



Summarizing, the condition to start with is characterized by primary motivation driving the organism and giving it a certain direction, further for the hominin in question a reorganization of the input into a set of manipulable entities all appreciated from out a stance of aboutness.



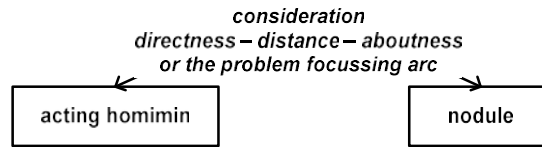
The basis pattern for the further explanation:





## 6.2 An authentic or first hand instance

The hominin acting concentrates perceptive and motor capacities on the nodule appreciated there on a distance in front of him. In the focus of attention is some concrete instance.

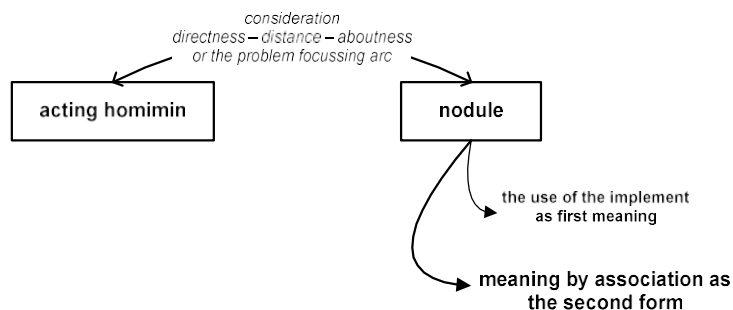


## 6.3 A vicarious instance

By accident the authentic instance could acquire a second meaning. The tailored nodule intended for opening the shell of hard nuts – its first meaning, could have been used to kill an enemy. Later showing the nodule mentioned can revive reminiscence of this event. This is an unproblematic illustration of what Vygotsky calls the application of second order stimuli. However simple it might come, it is the core of a promising dynamic system opening in the experience the realm of displacement in space and time, in short self initiated imagination.<sup>580</sup>

The role of the nodule mentioned comes down to that of a sign and a symbol. According to Peirce a symbol is some thing standing for some thing else (the nodule for an event); and Cassirer defines a sign as a symbol enrobed in meaning (the event being the killing of the enemy).

We have the problem focusing arc as particular arrangement of the Umwelt completed by the use of “objects” in the function of secondary stimuli.



(On meaning)<sup>581</sup>

## 6.4 A particular vicarious instance

I will be easy to understand that the stimulus of 2<sup>nd</sup> order can be associated with the depiction, description or whatever representation of a characteristic of the actor himself.

## 7. Conclusion

<sup>580</sup> This has been explained at large in other publications.

<sup>581</sup> The different levels of meaning have been discussed in the part “On Meaning”.

With this the basic conditions and the operations executed on top of that have been laid out. It allows to conclude that “cette distance nulle” holds nothing mysterious at all.

It respects that the actor is an indivisible unit in life and action while his experience as the effect of a particular way of negotiation the world indeed suggests a flavor of dualism. The latter condition is implied in the very act of mediated manipulation.

In summary, taking distance and the stance of aboutness as both the basic and necessary condition, emerge from the making and using of tools. As soon as narration is made possible by the manipulation of secondary stimuli, reflection becomes within reach. Reflexion is nothing but reflection however focused on features of the actor himself.

Of course, if the deductions inferred from the adaptations applied onto the stone tools found, are not accepted then the condition remains to be a conundrum.

# On the overwhelming alienation

## The dazzling deep as version

This will focus on a condition depicted as of undergoing a loss, a difficulty impossible to solve, an abyss which cannot be bridged presented as a confrontation with a dazzling deep. Lacan mentioning a radical gap provides a good example for this.

First “scenes” will be offered opening a glimpse on conditions and circumstances of influence on the life as experienced by the people. “Traces” will then expose some effects of the scenes on the psychic experience. The conclusion will point in the direction of a development which will give an evolutionary course in principle shared with other animals, a particular twist.

## *Scenes*

### Introduction

“This experience of distance is often referred to as a radical gap resulting into a feeling of alienation. Lacan for instance refers to it as the price paid for entering the symbolic order. It leads to an experience of deficiency, a lack, a void. It is about a lack of immediate being, the lack of an unconditional given reality (la manqué de l'être, le manque à l'être). There is no single signifier able to solve that problem, on the contrary the chain of signifiers not only installs but causes it again and again- no way to escape. Because language destroys the immediate it at the same time calls a longing to restore the condition which has been lost. It is a never ending process because as soon as language is used the void is getting introduced anew.”<sup>582</sup>

With this type of representation appears the myth of a lost innocence, the image of the lamb, the ritual gesture restoring innocence after the sin has been committed. Innocence refers to the Latin “in-noscere” meaning not harming. In Lacan’s version the human is harmed by the introduction of language.

In my opinion this embodies the most extreme misconception thinkable.

Because, it is precisely that condition which opens the characterizing abilities. Without it would even not be possible to refer to a particular species recognized as “the human”. There would be a species amongst other species, maybe a technical skilled hominid in that way different from the others. But there would not be a radical rupture. It only would represent a more sophisticated mode of animal existence.

Negotiating the environment is the mission of all living creatures.

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<sup>582</sup> In “L’angoisse, le seminaire livre X.

Taking a distance is part of the way the human is fulfilling that. It is anything but alienation. It exactly expresses what it is to be human, it expresses the human condition.<sup>583</sup>

This view begs the question how or why an interpretation, a staging of this kind did come about. There are a few suggestions.

For a first I will turn back to the contribution mentioned.

"The idea of alienation goes back on dualism. It relates to the two world model present in the writings of Plato. On the one hand there is the world of the true ideas and on the other perceptions in his opinion offering nothing but a scene of shadows. The problem is not particularly the presentation of two different contents but the fact itself of the introduction of two dimensions, in other words dualism. This follows from the question into the essence which in turn follows from the introduction of the invariable or "that what is" (*hoti esti*).<sup>584</sup> The said introduction embodies a fundamental turning point in the history of Western thought, a subject reaching far beyond this discussion.<sup>585</sup> Minimal clarification might however be needed for further understanding. According to Lloyd around the 5<sup>th</sup> to 4<sup>th</sup> century BCE there was need for an independent criterion useful to settle discussion. Nature in the sense of "that what is" was chosen.<sup>586</sup> Morton in turn attributes the origin of the invariable to the production of surplus in agriculture.<sup>587</sup> But whatever the explanation, both focus on the appearance of the invariable in that particular period. The introduction of the very idea would in time beg the question into the nature of it.<sup>588</sup> As a matter of fact the whole of the history which would follow is actually nothing but the mission to find out the nature of things.<sup>589</sup> In that sense dualism as a heritage from the Greeks became one of the most important patterns organizing and structuring Western thought. The discrepancy between appearance and truth, between being and appearing, between language and experience are but symptoms of that structuring. One should profoundly be aware of the fact that this is a pattern and a version with historical background. Neglecting this by accepting the structure mentioned for a natural reality produces its own problems alas still troubling the actual thinking.

Another more recent period in history is equally important. Again I will refer to another contribution in which the idea of having a private mind came into being.<sup>590</sup> But here I will not focus on that aspect but on how a person is getting perceived changed, provoking a particular appreciation of personal life.

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<sup>583</sup> For a similar point of view: Heidegger in "Einführung in die Metaphysik" (1953). He stresses that there is no difference between being and appearing, both collapse.

<sup>584</sup> The sequence the other way around might be more easy to understand. The introduction of the invariable is the stepping Stone, followed by the question into the nature or the essence of it. In the endeavour to answer Plato points to a true and a false version (allegory of the cave) by this not only introducing that there is something like a "true" version, but of relevance here the structure of duality.

<sup>585</sup> For an elaboration on this subject reference made to other contributions as "Mind what are we talking about, deconstruction of Suddendorf's rise of the metaind followed by a history based reconstruction of the concept of the mind"; and "The remarkable character of Western thought"; further "Script, a simple introduction into anthropogenesis" chapter 19 in "The 5<sup>th</sup> Ape".

<sup>586</sup> Cambridge professor of history of science; reference here to the publication dating from 1991: *Methods and problems in Greek science*; in particular chapter 19.

<sup>587</sup> Timothy Morton is a professor at the University of Rice in Houston; originally researching romanticism but shifted focus to ecology.

<sup>588</sup> "Nature" not in the sense of the physical dimension of the world, but as in "what is the nature of Paul, what is his character like?"

<sup>589</sup> Recall Whitehead stating that the history of Western culture is but a footnote to Plato (offering one possible answer). Aristotle prefers another version but his texts only came available to the West after 1085 marking the fall of Toledo.

<sup>590</sup> "Mind, what are we talking about?" The second chapter in the bundle "Unveiling the mind"

Contrasting this with the previous Middle Age appreciation will facilitate to appreciate the remarkable difference. In that period the human was considered the pinnacle of the Great Chain of Being. He was in a way similar to at the same time different from all other living creatures. He experienced himself as a creature provided with levels of animation as meant by Aristotle, a pattern taken over by Thomas Aquinas. He was part of the living world as the instantiation of Revelation different however in one aspect, the possession of a rational soul. The emphasis lies on serving unfolding that in a public relation to others. Behaviour was tuned to and judged by the public scene. Prayer was a public act. But gradually the scene of action changed in a dramatic way giving rise to different appreciation of the human and his fellow man. This change in mentality will become illustrated by sketching some scenes present in the contribution mentioned. As interlocking pieces of a puzzle they will reorient the subject into a different appreciation of self and life.

#### *From Fremd to Selbstzwang*

Changes in the domains of the military, urban, economic and demographic nature have been published by the sociologist Norbert Elias in "The civilizing process" (1939).

According to this author two major lines of force changed the structure of the personality.

One had to do with the reorganization of gangs of mercenaries reputed for brutality into trained regular armies ascertaining order and keeping peace. Their police like interventions suppressed explosions of affect in the public sphere. In order to avoid punishment by the military one could better learn to control all too wild impulses. This practice became a psychic trait and as such a consolidated part of the personality structure. With some exaggeration, brute confrontation made room for a being well mannered.

The increase of urbanization into ever larger centres of population was the other determining force. On the one hand people had to accommodate in living close together and on the other a division of labour into specialized professions took place. This also required a considerable effort in self-restraining at the same time raising the effort to attune with the particularities of others.

These forces complemented one another. There is the external pressure to behave oneself and there is the need to self-restraint in order to attune to the behaviour of others. Elias coined this shift the transition from "Fremdzwang zu Selbstzwang" (from outer to self control). Courtly rules – rules esteemed proper for a court, became the stepping stone into what would become considered common politeness. Direct action expressing personal interest got gradually replaced by behaviour aimed not to disturb the feelings of the other.

The importance of this is the shift from an interpersonal tension in the public arena to an interiorized but controlled tension within the individual. Psychic turbulences became private and hidden (inside). This process of interiorization consolidated into a permanent psychic condition. The world experienced shifted partly from an outside arena to inside theatre.

#### *From social interconnectedness to individual integrity*

There is yet another transition in accordance with what has been mentioned. Middle Age society is characterized by a public oriented social control. As mentioned in the introduction of this part people lived in large family-groups governed by interconnectedness and interdependency. This type of structure

shifted overtime in the direction of an increasing urbanization as mentioned and of the upcoming of the citizen. The French Revolution as catalyst broke down the old structures and promoted the individual in a new guise characterized by a type of integrity not to be questioned, of private property and private type of life not to be touched. It is obvious that this supports and strengthens the idea of an inner private life.

#### *From res communes to private property*

Before agriculture, the idea of private owned land was even not thought of. This changed with the labour invested in cultivating the land. It raised quite evidently a feeling of ownership. In the Roman period lakes, ponds, the shores of it, most of the woods and wildlife were considered to be common (*res communes*). This got even in part confirmed by the Magna Carta in the 13<sup>th</sup> century. In the 17<sup>th</sup> century Locke considered a balance between the commons and private property. His concern got inspired by a tendency which began in the 15<sup>th</sup> century to privatize hence to protect by enclosure what became private, land that once could be used freely by the community. The importance lies not only in the fact that it happened but that it was part of, at least developed in parallel with the transition observed by Elias.

#### *Labour becoming a commodity*

Part of the previous change there is yet another important for the way man in a Western cultural setting holds a picture about the way he is and functions in the world.

Whatever the deplorable condition the serf in the Middle Ages found himself in, in a way he was one with his life world. Not only had the Cartesian split not entered common thinking yet but of importance for the actual context whatever the poor conditions of life, as a property of the estate he was taken care of by the master. So he felt part or even bound to estate and environment. With the industrial revolution two related changes took place. In first instance labour changed from an aspect of fate into a tradable, moreover a marketable commodity. This got in a self evident way accompanied by the loss of being taken care of, the second change. The status of serf changed into that of a working man. This might be an all too simple representation as the life of a serf was in most cases not necessarily a pleasant one neither. But the attention is drawn to the fact that labour once a dimension of the integrity of the human became an isolated instance in its own right moreover becoming an object of trade, a commodity. There is a particular effect though; the well being of the labourer is not exactly the first concern of the entrepreneur interested in the labour itself.

#### *The organization of the home mirrors the needs of the psychic life*

With some exaggeration, the layout and the character of the Middle Age and the more modern house was very different. Doors were often open, people coming in and out at will. Rooms apart of the cooking and fireplace had no exclusive neither a permanent function. A bed was in most cases portable and had to be built up every night sometimes isolated from the remaining of the room by curtains.<sup>591</sup> Rooms were connected directly. To reach the third room in line one had to cross the life of the first two rooms. Urinals were hidden – often not – behind the window curtains. In short, the medieval and renaissance home was rather an open house with multifunctional rooms. As Arlette Farge observes in the Paris apartments of

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<sup>591</sup> The contemporary romantic looking four poster bed has a history.

the 18<sup>th</sup> century there was hardly a separation between in and outside.<sup>592</sup> In the following period doors became closed; the visitor was expected to ring or knock. He handed over his calling card and had to wait in the reception room. The meeting took place in a salon, a semi public space separated from the private rooms of the house where the family resided in intimacy. Rooms opened no longer one into the other but into a corridor. If one was to contact another member of the household he or she would no longer have to pass through the rooms of others. Rooms obtained a dedicated function. These changes demonstrate on the level of the infrastructure the shift from a life style in the public arena to a life privatized behind walls with special politeness rules in relation to public life. Psychic and housing architecture seem to run in parallel and testify of a profound change in public and psychic life.

### *Traces*

Changing the conditions will effectuate the psychic experience of the people subject to it as well as the way they will interpret and understand life.

Contrasting with the previous period will facilitate to appreciate the difference.

Even if in most cases probably it was not a pleasant condition, the individual in the middle Ages was part of and carried by the community he lived in. Life was essentially experienced in the public arena, subject to external powers and judged by the clergy, the lord of the land and conspecifics.

Becoming autonomous and self responsible, integrity in theory at least respected, factors which all could be appreciated as a win situation, it at the same time meant the loss of the security provided by the community which in that sense no longer existed. Recall the changed statute of labour for instance.

The more symbiotic sphere got replaced by a condition and with going feeling of isolation, being thrown back on oneself. It came with a reorientation from a view onto the outside world into one inwardly directed, contemplative, the inner life become the centre of attention and self judgement. Diaries came into use. Different from the actual function these did not particularly record important events which joyfully had to be remembered but bore more the character of registers of behaviours and feelings which in an act of self examination be judged on their virtue.<sup>593</sup>

From the middle of the 18<sup>th</sup> century the fusion of insights brought forth by the scientific practice and technical applications changed drastically the organization of the production process and the condition of the labourers and reinforced the central role of city life. The sky coloured grey and became heavy with soot disgorged by the countless factory chimneys fed by the furnaces driving steam engines. Provoked by these grim circumstances a romantic dream came to life depicting pastoral scenery with lush green, grazing cattle and peasants working peacefully the land in a natural pace. It was also the time the sublime nature with its overwhelming force got introduced, the idea to create natural parks in which the brute but pure life could be preserved.

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<sup>592</sup> Farge, A. (1968) In 'A history of private life', 5 volumes offering a rich overview of the common daily life through history.

<sup>593</sup> The dairies of Samuel Pepys, a public servant living in London of the 17<sup>th</sup> century, offer an excellent illustration of a mixture of reports on daily life and events requiring self-examination. Protestants could not rely on the intervention of a priest hearing confession so that had to fall back on self examination which promoted and reinforced the appreciation of an inner self.

## Summarizing

Inwardness orientation, continence, self-examination, remorse as mode of self punishment would ultimately lead to behaviour and psychic experienced conditions which from a particular point of view, would become considered to be pathologic. There are indeed two sides to this. On the one hand the condition experienced as uncomfortable in some sense and on the other the ideal of an unspoiled nature and pure virginity.<sup>594</sup> In earlier periods deviant behaviour got explained as being possessed by spirits.<sup>595</sup> The medical approach was exerted by priest and doctor often in cooperation, the first for the spiritual dimension the second for bodily shortcomings. The recognition of the problem was not always clear. But with “science” in that period also finding development in that domain, problems became more and more medicalized. Disturbance of the soul became gradually more framed as disturbances of the psychic life. Mesmerism as the intervention on animal magnetism could be situated on a dividing line between both realms. It is not aimed at treating the soul but the forces assumed have soul-like characteristics.

Meant is that a) a particular historical period brought forth particular psychic problems, and b) these became understood in a growing register of secular medical patterns.

A psychic dynamic theory could only be built on phenomena rising from changed societal, political and economical organization. These phenomena could be considered fitting the world as it is or disturbing and in that case in need of a proper frame of reference allowing understanding and approach or treatment. It will be obvious that psychic condition labelled “depression” in present days will not be treated as a case of possession.

## Rounding up

In the zero stage doing language was an action like any other action. It was an instantiation of the human being who articulated his condition of life. (period Mesopotamia, Babylon...). The 5<sup>th</sup>/6<sup>th</sup> century B.C.E. signified the turning point. The invariable got introduced in time followed by questions into the very nature, the essence of it. Different versions appeared, one of these suggested a realm of truth in contrast to an existence in shadows. This particular version introduced at the same time the basic structure of dualism while installing the belief of an ultimate reality. This relation could be rephrased as the tension between an existence in confusion and shadowy in contrast to the prospect of a true realm somewhere far in the horizon. What else for instance is the idea of an existence in earthly hardship with the prospect of redemption in the end of time?

This pattern would remain present in Western thought.

As explained the political-social and economical factors changed overtime leaving their mark on the interpretation and understanding of the world around. Life as experienced shifted from the public arena to the personal highly private while the basic pattern of veiling appearance in tension with pure reality

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<sup>594</sup> This is actually an all too simple representation. For a thorough understanding studies like these conducted by the already mentioned Norbert Elias, historians around Philip Aries and not in least the work of Foucault – on sexuality for instance, should be consulted.

<sup>595</sup> For a clarification on the position of witches as proof of the existence of the soul: George Makari; 2016; *The Soul machine: the invention of the modern mind*.



remained. It radiated through a secular version such as the interpretation in which language showed up as alienating practice with every linguistic interference veiling an authentic mode of existence. Concluding, two strands are to be discerned the second implemented on top of the other. There is the evolutionary development in which the organism is involved in negotiating the burdens of the environment in function of the condition of the primary motives and, in the case of the human line there is a particular mode of this in which narratives play a core role. Narratives serve as interpretations supporting the understanding. These however prove to be historical variable. As shown there is a particular interpretation introduced with the Greeks overtime becoming enrobed in different historic based versions.

The question if the version of language as alienating is false then is itself an illustration of that trap. Truth and false in that context are history based appreciations. A more appropriated approach might be expressed by the question "if that version might be if use in a particular setting?"



# On reality, Maslow's hammer

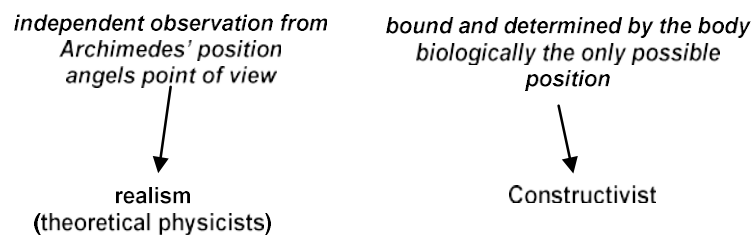
## Kant , Huxley and Maslow

Two apparently very different positions, how could they be related?

There is the realism of the type worded by theoretical physicists. They report on nature as if mirroring what reality is supposed to look like out there. On the other end of the continuum an embodied constructivist perspective can be found.

Realism takes the position known as the stance of Archimedes. He proclaimed to be able to lift the globe in case he could make use of a crowbar from a position outside of it all. The said theorist too seems to take a position outside the scene of action, reporting on the world in the quality of an independent observer. It is also known as the God's eye perspective as only an extra natural instance would be able to take a vantage point outside all of what is.

It is hard if not impossible to imagine how this actually could be done. Not one single organism is able to exist somewhere in thin air radically divorced from the world observed. The constructivist then suggests a biological more acceptable stance. He takes into account that the perspective of any organism is bound and filtered by the abilities of the body it instantiates.



As realism departs from a position considered to be impossible there is no further comment to give. For the constructivist approach this is different as the body is actually the key opening the perspective.

In that case some interesting quotes are to be given.

Take Kant to start with.

*"What all these investigators of nature comprehended was that reason has insight **only into what it itself produces according to its own plan**; and that reason must not allow nature by itself to keep it in leading strings as it were, but reason must-using principles that underlie its judgments-proceed according to constant laws and compel nature to answer reason's own questions."*

(Critique of Pure Reason, B XIII; stress added)

Huxley addresses Lord Kelvin in a similar way.

*"Thank you Professor van Helmholtz for your support. I think mathematics may be compared to a mill of exquisite workmanship, which grinds you stuff of any degree of fineness; but, nevertheless, **what you get out depends on what you put in...**"*

(Excerpt from Lord Kelvin and the Age-of-the-Earth-Debate: a Dramatization by Art Stinner & Jürgen Teichman. *Science & Education* 12:213-228, 2003. Stress added)

Finally the version worded by Maslow could be considered as most catchy:

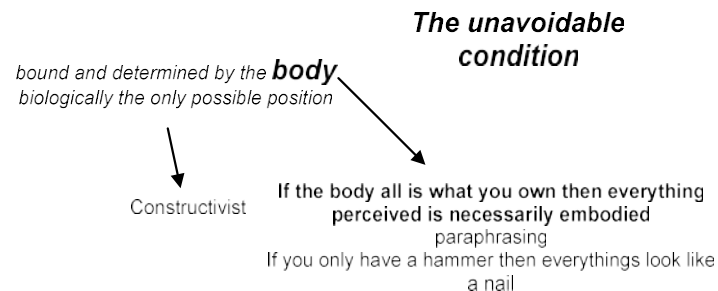
“If the only tool you have is a hammer, everything looks like a nail”

(Maslow, A. 1966. *The psychology of Science*.)

It could be argued that a hammer is only one possibility amongst many others. But in the context discussed here, the body is the very first and only ingredient or means allowing to partake or access the world and being the only one as a system it determines perception and action.

In one or another way these different versions refer to the same: if the body is the ultimately first means present, then it is (only) opening and by this determining perspective onto the world.

This to me is the decisive fact. Conversely, how could the human, any organism for that matter take a position outside of it all allowing an independent vantage point?



Of course, there are the conditions known as aboutness, reflection and reflexion suggesting that seemingly impossible kind of position. These however are not factual states of affair but perspectives, points of view or stances. It is not because a mentalist on a stage seems to be able to read the minds of the audience that he actually is capable to do so.

(For a more elaborate discussion: On Aboutness and On reflexion).

### **The importance of this line of argument**

On the level of effect, there is no difference between the positions mentioned. In so far the constructivist is an instrumentalist too; he is convinced that the decisive criterion comes down to the success of the intervention guided by whatever theory in the background. Perception then is a function of negotiating the world in order to maintain survival. The realist on the other hand might be convinced that he is contributing to a truthful depiction of nature. But looking carefully into what actually is driving science, it turns out that only the success of the intervention executed is the decisive factor. Unsuccessful programs are seldom if not never pursued. The assumption about a truthful depiction of the world is an assumption in the background, but an assumption and in the background indeed. So in a world ruled by facts there is

no difference between both positions and consequently the whole of the discussion is actually superfluous.

There is however something else in play: the statute attributed to the point of view. Humans in general, scientists not excluded tacitly consider the species being special even in an exponential way. Religion may well have lost glory, the idea of the human species being chosen; moreover the steward of everything else is still strongly present.

If modesty might be valued in attributing the possible reach of knowledge, the determination at the same time limitation of the grasp in whatever dimension or aspect, then the view taken by the constructivist is to be preferred. But as this has no impact on the effect, it is only a matter of principle. I consider this position the best platform, the best stepping stone into thinking about the future of mankind, not only as the ultimate goal but too for daily life. It in the first place would confront with responsibility instead of projecting the final responsibility on vague instances like the invisible hand in the mechanism of a free market.

Finally, there is yet another point to make. Scientists do not limit their musings to the province they specialize in. At some point in time they not seldom feel seduced into pondering on the nature of man and world, the conundrums of free will and consciousness, the shroud named consciousness and the relation of mind to matter.

At that point something understandable steps in. Recognized as the ultimate experts in highly valued fields transcending common knowledge, this appreciation radiates onto their thoughts on the subjects mentioned.<sup>596</sup> But in that domain they are no more competent than a soccer star is of quantum physics. Moreover in that field of discussion they maintain the misleading stance of an independent observer pretending able to peek into an objective reality. Of course most are geniuses in their field of specialization, but beware when they ponder publicly about other subjects.

### **A few observations to end**

Brian Greene, a well known theoretical physicist, states that he (as the proponent of science) only is able to provide operational definitions. He can describe how to measure mass for instance and how to observe it but actually not explain what it is (what it does versus the essence of it). This is a very remarkable observation illustrating a rather schizophrenic stance on the subject. He agrees that he is only able to perform and report on operations but he still accepts the existence of a mysterious like essence which escapes his efforts to define. Why isn't he satisfied with the operational approach he expresses in the first place and end of story? It seems to escape him that the idea of an essence is a conceptual burden with a historical background. It is a version, a story, a concept, a fiction, a product of a particular point of view.

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<sup>596</sup> Yuval Hariri provides a striking example. As an expert in medieval armoury and warfare, he wrote what would become his first bestseller actually only for the benefit of his students. It got marketed well and fulfilled the need of many apparently. In the meantime he is touring the around the globe as a kind of ultimate expert in everything. He is expert in the subject of free will, in international politics, in science – you name it and his opinion is becoming quoted.

The stance on this dimension of the subject taken by Brian Greene fits strikingly what George Orwell meant by “double talk”.<sup>597</sup>

(Brian Greene: Mind, matter and the search for meaning. Interview by Kishore Hari on behalf of the Commonwealth Club of California; 2020. YouTube)

A realist can actually from a biological and a physiological point of view not be anything else but a constructivist amazingly enough bearing the conviction that he has privileged access to the world.

Constructivism does not eliminate the efficacy of complex models and equations. These should however not be taken as truthful depictions of the world, but as models rather plans and projects how to successfully intervene in the environment. This was actually the point of view taken by Mlodinow and Hawking in *The Grand Design* (2010).

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<sup>597</sup> This relates only to the appreciation of the statute attributed to the idea of “reality”, in no way to the effort done within the province they are trained in. Further, double talk wants to point out the accepting and holding of opposing beliefs at the same time.